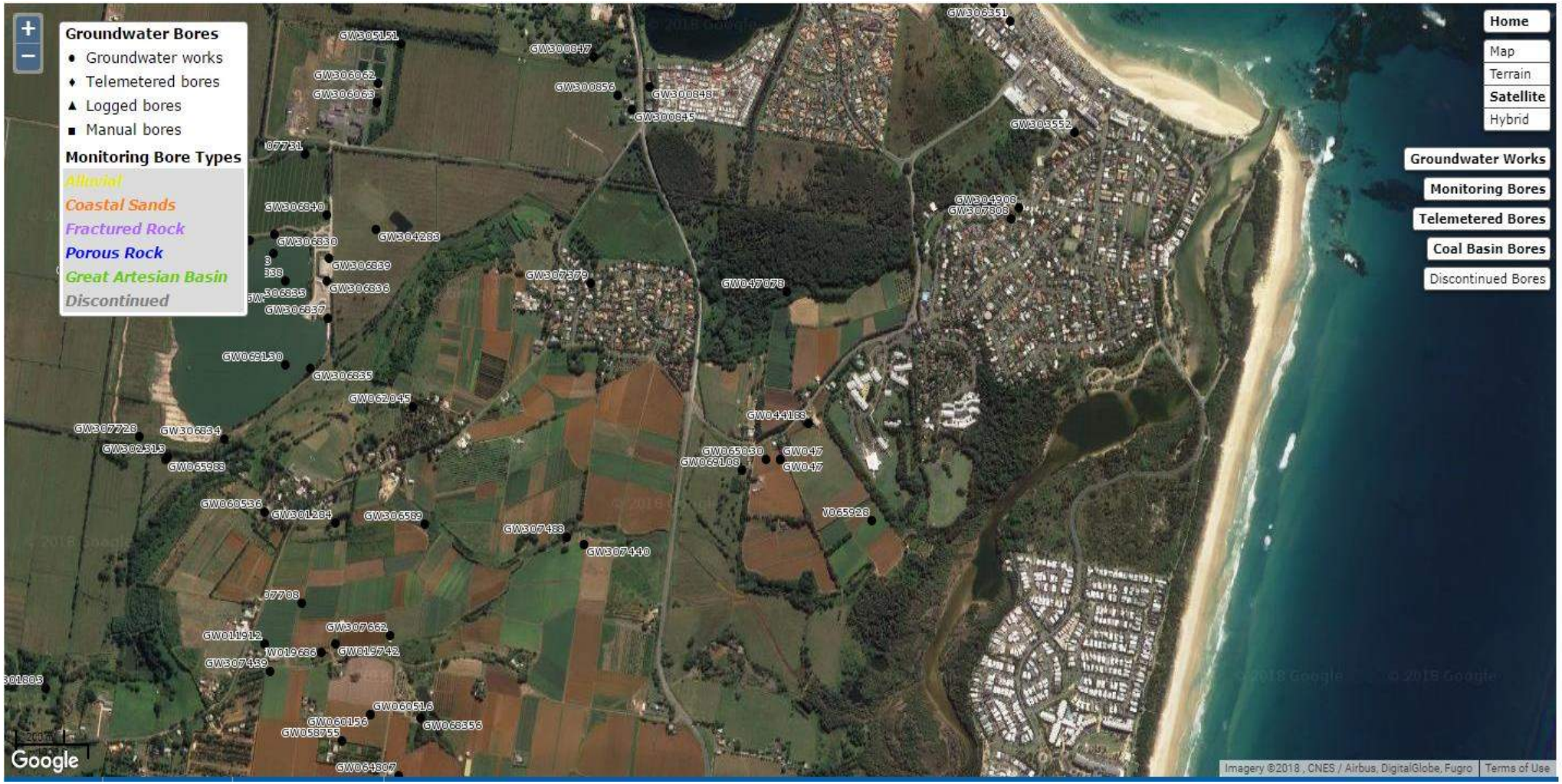
PRELIMINARY AND DETAILED SITE INVESTIGATION – 771 Cudgen Road, Cudgen, NSW 2487.

PART 3 of 3

Prepared For: Health Infrastructure NSW c/o-TSA Management

Date: 17 October 2018

APPENDIX F REGISTERED BORES


Groundwater Bores
Groundwater works
Telemetered bores
Logged bores
Manual bores
Monitoring Bore Types
Alluvial
Coastal Sands
Fractured Rock
Porous Rock
Great Artesian Basin
Discontinued
Home
Map
Terrain
Satellite
Hybrid
Groundwater Works
Monitoring Bores
Telemetered Bores
Coal Basin Bores
Discontinued Bores
GW305151
GW300847
GW306062
GW306063
GW300856
GW300848
GW300849
GW306351
GW303552
GW306840
GW306850
GW304288
GW306839
GW306836
GW306835
GW306837
GW307379
GW047078
GW304308
GW307308
GW069130
GW306835
GW062045
GW044183
GW307729
GW306834
GW302313
GW065983
GW065030
GW069108
GW047
GW060536
GW301284
GW306589
GW307438
GW307440
GW065928
GW011912
GW307662
GW019836
GW019742
GW307439
GW060516
GW060156
GW058755
GW068556
GW064807
Google
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NSW Office of Water
Work Summary

GW044188

Licence: 30BL102916
Licence Status: ACTIVE

Authorised Purpose (s): DOMESTIC
Intended Purpose(s): DOMESTIC

Work Type: Well
Work Status:
Construct.Method:
Owner Type: Private

Commenced Date:
Completion Date: 01/01/1945
Final Depth: 12.10 m
Drilled Depth: 12.20 m

Contractor Name:
Driller:
Assistant Driller:

Property: PRICHARD'S 752 CUDGEN ROAD CUDGEN 2487
GWMA: -
GW Zone: -
Standing Water Level (m):
Salinity Description: Good Stock
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	ROUS	ROUS.019	DP5 (5)
Licensed:	ROUS	CUDGEN	Whole Lot 2//616751

Region: 30 - North Coast
River Basin: 202 - BRUNSWICK RIVER
Area/District:
CMA Map: 9641-3N
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)
Northing: 6873149.0
Easting: 555547.0
Latitude: 28°15'59.3"S
Longitude: 153°33'58.8"E

GS Map: -
MGA Zone: 0
Coordinate Source: GD.,ACC.MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	Concrete Cylnder	0.00	0.00	1371			

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
11.50	12.10	0.60	Fractured	6.00		0.25			

Geologists Log
Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	4.57	4.57	Soil Red	Soil	
4.57	12.19	7.62	Shale Water Supply	Shale	

Remarks

18/02/1977: SITED LOT 41 D.P. 5 CUDGEN

***** End of GW044188 *****

NSW Office of Water
Work Summary

GW065030

Licence: 30BL130119
Licence Status: LAPSED
Authorised Purpose (s): IRRIGATION
Intended Purpose(s): IRRIGATION

Work Type: Bore
Work Status:
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date:
Completion Date: 16/10/1989
Final Depth: 30.00 m
Drilled Depth: 30.00 m

Contractor Name: Slade Drilling
Driller: Phillip Henry Slade
Assistant Driller:

Property: N/A NSW
GWMA: -
GW Zone: -
Standing Water Level (m): 12.000
Salinity Description:
Yield (L/s): 3.400

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	ROUS	ROUS.019	LOT 101 DP866795
Licensed:	ROUS	CUDGEN	Whole Lot //

Region: 30 - North Coast
River Basin: 202 - BRUNSWICK RIVER
Area/District:
CMA Map: 9641-3N
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6873027.0
Easting: 555383.0
Latitude: 28°16'03.3"S
Longitude: 153°33'52.8"E

GS Map: -
MGA Zone: 0
Coordinate Source: Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	30.00	165			Rotary Air
1	1	Casing	Pvc Class 9	0.00	30.00	137			Seated on Bottom
1	1	Opening	Slots - Diagonal	17.00	30.00	137		1	PVC Class 9, SL: 13.0mm, A: 3.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

17.00	30.00	13.00	Unconsolidated	12.00		3.40			

Geologists Log
Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	15.00	15.00	CLAY	Unknown	
15.00	17.00	2.00	WEATHERED ROCK	Unknown	
17.00	20.00	3.00	BASALT	Unknown	
20.00	24.00	4.00	WEATHERED BASALT	Unknown	
24.00	30.00	6.00	CLAY & SANDSTONE	Unknown	

Remarks

***** End of GW065030 *****

WaterNSW
Work Summary

GW047692

Licence:
Licence Status:
Authorised Purpose (s):
Intended Purpose(s): IRRIGATION

Work Type: Bore
Work Status:
Construct.Method: Rotary
Owner Type: Private

Commenced Date:
Completion Date: 01/10/1980
Final Depth:
Drilled Depth: 21.30 m

Contractor Name: (None)
Driller:
Assistant Driller:

Property:
GWMA:
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:			
Licensed:	ROUS	CUDGEN	5

Region: 30 - North Coast
River Basin: 202 - BRUNSWICK RIVER
Area/District:
CMA Map: 9641-3N
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)
Northing: 6873027.000
Easting: 555437.000
Latitude: 28°16'03.3"S
Longitude: 153°33'54.8"E

GS Map: -
MGA Zone: 56
Coordinate Source: GD.,ACC.MAP

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Backfill	Backfill	0.00	21.30				

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.20	1.20	Soil	Soil	
1.20	7.60	6.40	Clay Decomposed Basalt	Clay	
7.60	11.30	3.70	Clay	Clay	
11.30	21.30	10.00	Basalt Layers	Basalt	
1.20	7.60	6.40	Gravel	Gravel	

11.30	21.30	10.00	Clay Layers	Clay	

***** End of GW047692 *****

NSW Office of Water
Work Summary

GW065030

Licence: 30BL130119
Licence Status: LAPSED
Authorised Purpose (s): IRRIGATION
Intended Purpose(s): IRRIGATION

Work Type: Bore
Work Status:
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date:
Completion Date: 16/10/1989
Final Depth: 30.00 m
Drilled Depth: 30.00 m

Contractor Name: Slade Drilling
Driller: Phillip Henry Slade
Assistant Driller:

Property: N/A NSW
GWMA: -
GW Zone: -
Standing Water Level (m): 12.000
Salinity Description:
Yield (L/s): 3.400

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	ROUS	ROUS.019	LOT 101 DP866795
Licensed:	ROUS	CUDGEN	Whole Lot //

Region: 30 - North Coast
River Basin: 202 - BRUNSWICK RIVER
Area/District:
CMA Map: 9641-3N
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6873027.0
Easting: 555383.0
Latitude: 28°16'03.3"S
Longitude: 153°33'52.8"E

GS Map: -
MGA Zone: 0
Coordinate Source: Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	30.00	165			Rotary Air
1	1	Casing	Pvc Class 9	0.00	30.00	137			Seated on Bottom
1	1	Opening	Slots - Diagonal	17.00	30.00	137		1	PVC Class 9, SL: 13.0mm, A: 3.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

17.00	30.00	13.00	Unconsolidated	12.00		3.40			

Geologists Log
Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	15.00	15.00	CLAY	Unknown	
15.00	17.00	2.00	WEATHERED ROCK	Unknown	
17.00	20.00	3.00	BASALT	Unknown	
20.00	24.00	4.00	WEATHERED BASALT	Unknown	
24.00	30.00	6.00	CLAY & SANDSTONE	Unknown	

Remarks

***** End of GW065030 *****

NSW Office of Water
Work Summary

GW069108

Licence: 30BL142672 **Licence Status:** ACTIVE

Authorised Purpose(s): FARMING
Intended Purpose(s): FARMING

Work Type: Bore
Work Status:
Construct.Method: Rotary Air
Owner Type: Private

Commenced Date:
Completion Date: 07/03/1991
Final Depth: 54.00 m
Drilled Depth: 54.00 m

Contractor Name: Slade Drilling Pty Ltd
Driller: Phillip Henry Slade
Assistant Driller:

Property: KINGSCLIFF LAND COMPANY PTY LI CUDGEN ROAD CUDGEN 2487 NSW
GWMA: -
GW Zone: -
Standing Water Level (m):
Salinity Description: Good
Yield (L/s): 0.500

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	ROUS	ROUS.019	LOT 2 DP612182
Licensed:	ROUS	CUDGEN	Whole Lot 13//868620

Region: 30 - North Coast
River Basin: 202 - BRUNSWICK RIVER
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6872990.0
Easting: 555291.0
Latitude: 28°16'04.5"S
Longitude: 153°33'49.5"E

GS Map: -
MGA Zone: 0
Coordinate Source: GD.,ACC.GIS

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	54.00	195			Rotary Air
1		Annulus	Waterworn/Rounded	0.00	54.00				Q:1.000m3
1	1	Casing	Pvc Class 9	0.00	36.00	137			Suspended in Clamps
1	1	Opening	Slots - Diagonal	15.00	36.00	137		1	PVC, SL: 21.0mm, A: 3.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)		Duration (hr)	Salinity (mg/L)

							Hole Depth (m)		
16.00	40.00	24.00	Unknown			0.50	54.00		

Geologists Log
Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	10.00	10.00		Clay	
10.00	13.00	3.00		Basalt	
13.00	16.00	3.00	Clay & Ash	Clay	
16.00	21.00	5.00		Basalt	
21.00	33.00	12.00		Clay	
33.00	40.00	7.00	Aerated Basalt	Basalt	
40.00	47.00	7.00		Clay	
47.00	54.00	7.00		Granite	

Remarks

***** End of GW069108 *****

NSW Office of Water
Work Summary

GW304908

Licence: 30BL183212
Licence Status: ACTIVE

Authorised Purpose (s): DOMESTIC
Intended Purpose(s): DOMESTIC

Work Type: Bore
Work Status:
Construct.Method: Auger - Hollow Flight
Owner Type:

Commenced Date:
Completion Date: 03/11/2004
Final Depth: 5.00 m
Drilled Depth: 5.00 m

Contractor Name:
Driller: Wayne Alan Williams
Assistant Driller:

Property: JAMES-WALKER 28 QUIGAN STREET KINGSCLIFF 2487
GWMA: -
GW Zone: -
Standing Water Level: 3.000
Salinity: Good
Yield: 0.500

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	ROUS	ROUS.19	14 28015
Licensed:	ROUS	CUDGEN	Whole Lot 14//28015

Region: 30 - North Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6873900.0
Easting: 556364.0
Latitude: 28°15'34.7"S
Longitude: 153°34'28.7"E

GS Map: -
MGA Zone: 0
Coordinate Source: Unknown

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	5.00	100			Auger - Hollow Flight
1	1	Casing	P.V.C.	0.00	4.50	32	27		Seated on Bottom, Glued
1	1	Opening	Slots	0.00	5.00	32		1	Steel - ERW, SL: 60.0mm, A: 4.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
3.00	5.00	2.00	Unknown	3.00	3.50	0.50	5.00	01:00:00	100.00

Geologists Log
Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	5.00	5.00	sand grey	Sand Grains (Lithic)	

Remarks

23/09/2011: Slot Length and Width adjusted due to data entry errors with advice from Madhwan Keshwan. GDS Data Cleanup project 2011.

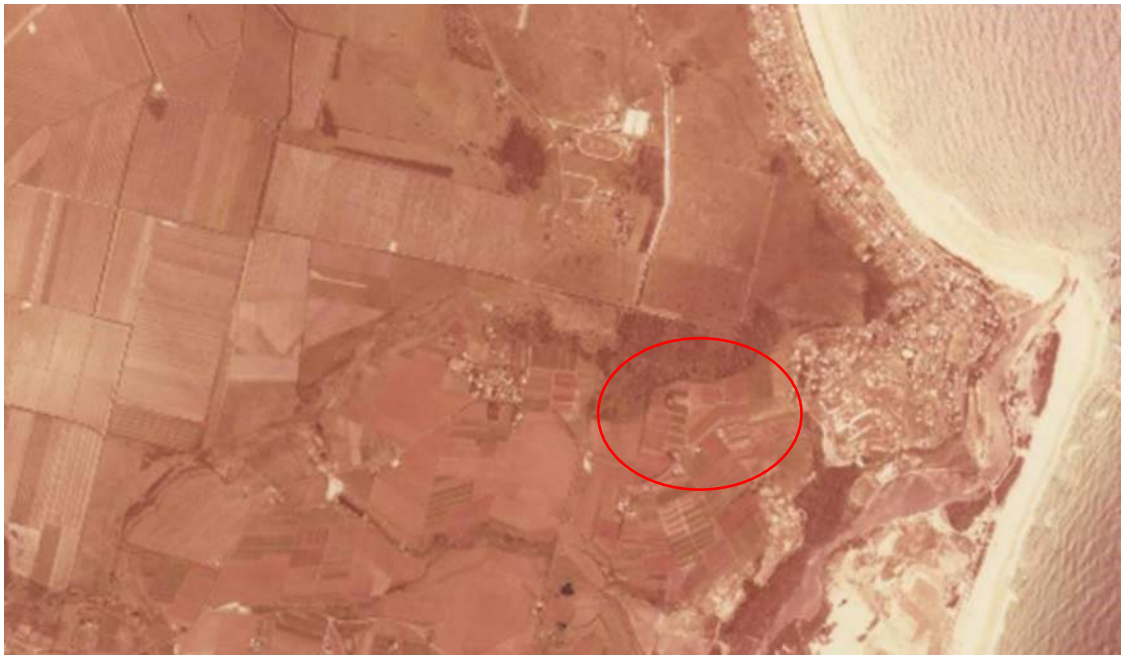
***** End of GW304908 *****

APPENDIX G AERIAL PHOTOS


MAP 709 H58-3 CUDGERA - NORRIES HEAD - MURWILLUMBAH RUN8 10626 - 10648 16-12-44

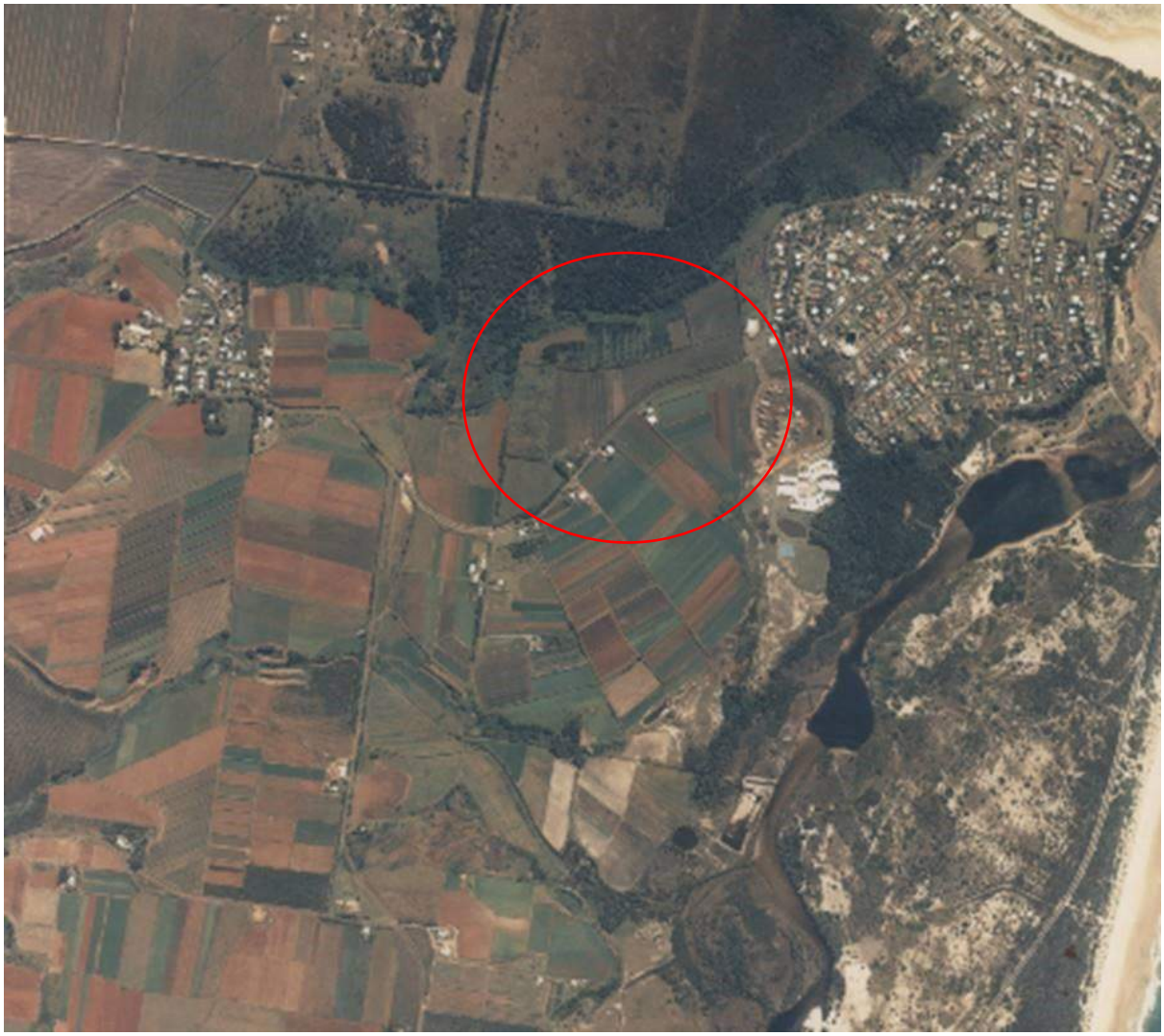
1942

1962



1976

1986



1995

APPENDIX H BORE LOGS

Project: **Tweed Valley Hospital** Project Location: **771 Cudgen Road, Cudgen** Project Number: **J8961**	Bore Log HA1 **Sheet 1 of 1**

Date(s) Drilled **1/8/2018**	Logged By **M.Conroy**	Checked By **M.Conroy**
Drilling Method **Hand Auger**	Drill Bit Size/Type	Total Depth of Borehole **0.9**
Drill Rig Type	Drilling Contractor **OCTIEF**	
Groundwater Level and Date Measured	Sampling Method(s) **Auger**	
Borehole Backfill **cutting**	Location	

Depth (meters)	Material Type	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Sample Number	PID Reading, ppm	REMARKS AND OTHER TESTS
0	CH-MH		Silty Clay, dry , medium plasticity , traces of gravel				
					HA1-0.15	0.0	
0.1	CL-CH		Silty CLAY , damp , medium plasticity , firm				
0.2							
0.3							
0.4							
0.5					HA1-0.5	0.1	
0.6							
0.7							
0.8							
0.9			END OF HOLE		HA1-0.85	0.0	
1							

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Project: **Tweed Valley Hospital** Project Location: **771 Cudgen Road, Cudgen** Project Number: **J8961**	Bore Log HA2 **Sheet 1 of 1**

Date(s) Drilled **1/8/2018**	Logged By **Matthew Conroy**	Checked By
Drilling Method **Hand Auger**	Drill Bit Size/Type	Total Depth of Borehole **0.9m**
Drill Rig Type	Drilling Contractor **OCTIEF**	
Groundwater Level and Date Measured	Sampling Method(s) **Hand Auger**	
Borehole Backfill **Cuttings**	Location	

Depth (meters)	Material Type	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Sample Number	PID Reading, ppm	REMARKS AND OTHER TESTS
0	CL-ML		Silty CLAY , dry , traces of gravel , low - medium plasticity				
0.1					HA2-0.15	0.2	
0.2	CL-ML		Silty CLAY , firm, medium plasticity , damp,				
0.3							
0.4							
0.5					HA2-0.5	0.0	
0.6							
0.7							
0.8					HA2-0.85	0.0	
0.9			END OF HOLE 0.9m				
1							

Q:\2017 to 2018 Projects\1 - YATALA\3 - ENVIRO\J8961 - Tweed Valley Hospital PSI\10 - Site notes\Bore Logs 1.bg4[Soil_1m.tpl]

Project: **Tweed Valley Hospital**
Project Location: **771 Cudgen Road, Cudgen**
Project Number: **J8961**

Bore Log HA4
Sheet 1 of 1

Date(s) Drilled **1/8/2018**	Logged By **Matthew Conroy**	Checked By
Drilling Method **Hand Auger**	Drill Bit Size/Type	Total Depth of Borehole **0.9m**
Drill Rig Type	Drilling Contractor **OCTIEF**	
Groundwater Level and Date Measured	Sampling Method(s) **Hand Auger**	
Borehole Backfill **Cuttings**	Location **28' 15.910' S, 153 33.992 E**	

Depth (meters)	Material Type	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Sample Number	PID Reading, ppm	REMARKS AND OTHER TESTS
0	CL		Clay				
0.1					HA4-0.15	0.1	
0.2	CH-MH		Silty CLAY, firm , damp -moist , medium plasticity ,				
0.3							
0.4							
0.5					HA4-0.5	0.2	
0.6							
0.7							
0.8					HA4-0.85	0.0	
0.9			END OF HOLE 0.9m				
1							

Q:\2017 to 2018 Projects\1 - YATALA\3 - ENVIRO\J8961 - Tweed Valley Hospital PSI\10 - Site notes\Bore Logs 1.bg4[Soil_1m.tpl]

Project: **Tweed Valley Hospital**

Project Location: **771 Cudgen Road, Cudgen**

Project Number: **J8961**

Bore Log HA5

Sheet 1 of 1

Date(s) Drilled **1/8/2018**	Logged By **Matthew Conroy**	Checked By
Drilling Method **Hand Auger**	Drill Bit Size/Type	Total Depth of Borehole **0.9m**
Drill Rig Type	Drilling Contractor **OCTIEF**	
Groundwater Level and Date Measured	Sampling Method(s) **Hand Auger**	
Borehole Backfill **Cuttings**	Location **28' 15.734' S, 153 33.983 E**	

Depth (meters)	Material Type	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Sample Number	PID Reading, ppm	REMARKS AND OTHER TESTS
0	CL-ML		CLAY, silty , damp- moist , medium plasticity , firm				
0.1					HA5-0.15	0.0	
0.2							
0.3							
0.4							
0.5	GC-CH		CLAY, gravelly, some silt, fragments of very weathered basalt		HA5-0.5	0.0	
			END OF HOLE - Auger Refusal				
0.6							
0.7							
0.8							
0.9							
1							

Q:\2017 to 2018 Projects\1 - YATALA\3 - ENVIRO\J8961 - Tweed Valley Hospital PSI\10 - Site notes\Bore Logs 1.bg4[Soil_1m.tpl]

Project: **Tweed Valley Hospital**

Project Location: **771 Cudgen Road, Cudgen**

Project Number: **J8961**

Bore Log HA7

Sheet 1 of 1

Date(s) Drilled **1/8/2018**	Logged By **Matthew Conroy**	Checked By
Drilling Method **Hand Auger**	Drill Bit Size/Type	Total Depth of Borehole **0.9m**
Drill Rig Type	Drilling Contractor **OCTIEF**	
Groundwater Level and Date Measured	Sampling Method(s) **Hand Auger**	
Borehole Backfill **Cuttings**	Location	

Depth (meters)	Material Type	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Sample Number	PID Reading, ppm	REMARKS AND OTHER TESTS
0							
0.1	CL-CH		CLAY, silty, damp, silty firm to stiff		HA7-0.15		
0.2	CL-ML		CLAY, silty, some gravel , damp, firm increasing gravel with depth ,				
0.3							
0.4							
0.5					HA7-0.5	0.0	
0.6							
0.7							
0.8							
0.9			END oF HOLE - 0.9m		HA7-0.85	0.1	
1							

Q:\2017 to 2018 Projects\1 - YATALA\3 - ENVIRO\J8961 - Tweed Valley Hospital PSI\10 - Site notes\Bore Logs 1.bg4[Soil_1m.tpl]

ENVIRONMENTAL BOREHOLE HA8

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°15.765' S, 153° 34.203' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION**
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.4m	**CHECKED BY** M.Oliver

COMMENTS

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA8-0.15				CLAY, Silty , low plasticity , red brown, dry, low to moderate plasticity, lots of rootlets (organic , some	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA9

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°5.780' S, 153°34.159' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.4m	**CHECKED BY** M.Oliver

COMMENTS

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA9-0.15				CLAY, Silty , low plasticity , dry to damp traces of gravel	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA10

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.800' S, 153°34.164' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA10-1 to HA10-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA10-0.15				CLAY, Silty , low plasticity, red brown, gravelly , dry to damp	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA11

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.790' S, 153°34.127' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA11-1 to HA11-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.1		HA11-0.15				CLAY, Silty , low- medium plasticity , red brown, gravelly at base, dry to damp, with increased moisture below tilled depth	
0.5							End of Hole - gravelly	

ENVIRONMENTAL BOREHOLE HA12

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.809' S, 153°34.132' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA12-1 to HA12-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0		HA12-0.15				CLAY, Silty , medium plasticity , red brown in colour, dry to damp, traces of gravel	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA13

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.829' S, 153°34.092' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA13-1 to HA13-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0		HA13-0.15				CLAY, Silty , low plasticity , traces of gravel increasing with depth , red brown	
0.5							End of Hole	

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produced by ESlog.ESdat.net on 04 Oct 2018

ENVIRONMENTAL BOREHOLE HA14

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.796' S, 153°34.095' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA14-1 to HA14-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA14-0.15				CLAY, Silty , low medium plasticity , traces of gravel to some gravel, red brown, dry	
							End of Hole	
0.5								

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produced by ESlog.ESdat.net on 04 Oct 2018

ENVIRONMENTAL BOREHOLE HA15

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.806' S, 153°34.059' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA15-1 to HA15-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA15-0.15				CLAY, Silty , low -medium plasticity, dry, red brown, traces of gravel	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA16

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.810' S, 153°34.026' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA16-1 to HA16-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA16-0.15				CLAY, Silty , low plasticity, dry -damp , traces of gravel	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA17

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.812' S, 153°33.996' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA17-1 to HA17-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA17-0.15				CLAY, Silty , low plasticity, red-brown, dry, traces of gravel	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA18

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°15.817' S, 153°33.960' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.4m	**CHECKED BY** M.Oliver

COMMENTS Composite Sample Log from four locations - HA18-1 to HA18-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA18-0.15				CLAY, Silty , low to medium plasticity, traces of gravel, red brown, dry	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA19

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.852' S, 15°33.955' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite Sample Log from four locations - HA19-1 to HA19-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA19-0.15				CLAY, Silty , low - medium plasticity , dry to damp increasing gravel / rock fragments	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA20

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°15.850' S, 153°33.985' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.4m	**CHECKED BY** M.Oliver

COMMENTS Composite Sample Log from four locations - HA20-1 to HA20-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.1		HA20-0.15				CLAY, Silty red brown , low plasticity , traces of gravel, dry to damp	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA22

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.888' S, 153°33.991' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA22-1 to HA22-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.2		H22-0.15				CLAY, Silty , low plasticity , traces of gravel and sand, red brown, dry to damp, increasing moisture with depth	
							End of Hole	
0.5								

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produced by ESlog.ESdat.net on 04 Oct 2018

ENVIRONMENTAL BOREHOLE HA23

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.885' S, 153°34.010' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA23-1 to HA23-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA23-0.15				CLAY, Silty , low to moderate plasticity, red brown , traces of gravel , increasing moisture with depth.	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA24

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.872' S, 153°34.034' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA24-1 to HA24-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA24-0.15				CLAY, Silty , low plasticity , some gravel at depth , dry at surface , increasing moisture to damp.	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA25

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°15.858' S, 153°34.050' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.4m	**CHECKED BY** M.Oliver

COMMENTS Composite samples HA25-1 to HA25-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA25-0.15				CLAY, Silty, dry tilled soil, damp at depth , low plasticity , traces of sand and gravel	
0.5							End of Hole	

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OCTIEF

ENVIRONMENTAL BOREHOLE HA26

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.840' S, 153°34.068' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA26-1 to HA26-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.1		HA26-0.15				CLAY, Silty , low to moderate plasticity , traces of gravel, dry to damp, increased gravel at base of hand auger	
0.5							End of Hole	

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produced by ESlog.ESdat.net on 04 Oct 2018

ENVIRONMENTAL BOREHOLE HA27

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.839' S, 153°34.037' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA27-1 to HA27-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.2		HA27-0.15				CLAY, Silty , orange brown, dry, low plasticity , minor gravel	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA28

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.847' S, 153°34.006' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA28-1 to HA28-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
			H28-0.15				CLAY, Silty , low to moderate plasticity , dry to damp, some coarser sand and gravel	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA29

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.4m

COORDINATES 28°15.941' S, 153°33.954' E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA29-1 to HA29-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA29-0.15				CLAY, Silty ,orange brown, low plasticity , some gravel with depth , dry at surface , damp by 0.3.m	
							End of Hole	
0.5								

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ENVIRONMENTAL BOREHOLE HA30

PROJECT NUMBER J8961	**DRILLING DATE** 2/8/2018	**COORDINATES** 28°15.963' S, 153°33.947' E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.5m	**CHECKED BY** M.Oliver

COMMENTS Composite samples HA30-1 to HA30-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
			HA30-0.15				CLAY, Silty , low plasticity , damp, some gravel, firm	
							End of Hole	
0.5								

ENVIRONMENTAL BOREHOLE HA31

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.984' S, 153°33.916 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA31-1 to HA31-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA31-0.15				CLAY, Silty , red brown, low plasticity , traces of gravel dry at surface, with increasing moisture	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA31

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.984' S, 153°33.916 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA31-1 to HA31-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA31-0.15				CLAY, Silty , red brown, low plasticity , traces of gravel dry at surface, with increasing moisture	
0.5			HA31 - 0.5				End of Hole	

ENVIRONMENTAL BOREHOLE HA32

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA32 -0.15				CLAY, Silty , red brown, low plasticity , traces of gravel dry at surface, with increasing moisture	
0.5			HA32 - 0.5				End of Hole	

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ENVIRONMENTAL BOREHOLE HA33

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA33-0.15				CLAY, Silty , red brown, low plasticity , dry at surface, with increasing moisture	
0.5							End of Hole	

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produced by ESlog.ESdat.net on 05 Oct 2018

ENVIRONMENTAL BOREHOLE HA34

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA:

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA34-0.15				CLAY, Silty , red brown, low plasticity , very gravelly , dry at surface, with increasing moisture	
							End of Hole - refusal on gravel / boulders	
0.5								

ENVIRONMENTAL BOREHOLE HA35

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA35-0.15				CLAY, Silty , red brown, low plasticity, stiff clays , gravelly dry at surface, with increasing moisture	
0.5							End of Hole	

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produced by ESlog.ESdat.net on 05 Oct 2018

ENVIRONMENTAL BOREHOLE HA36

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA36-0.15				CLAY, Silty , red brown,med plasticity , some gravel / boulders at surface , stiff clays , with increasing moisture	
0.5			HA36 - 0.5				End of Hole	

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produced by ESlog.ESdat.net on 05 Oct 2018

ENVIRONMENTAL BOREHOLE HA37

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA:

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA37-0.15				CLAY, Silty , red brown stiff clays, low plasticity , very gravelly , with increasing moisture . lots of organic materal	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA38

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA38-0.15				CLAY, Silty , red brown, low plasticity ,gravelly at surface, with increasing moisture	
							End of Hole	
0.5								

Disclaimer This log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 05 Oct 2018

ENVIRONMENTAL BOREHOLE HA39

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 2/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA39-0.15				CLAY, Silty , red brown, low plasticity , traces of gravel dry at surface, with increasing moisture	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA40

PROJECT NUMBER J8961	**DRILLING DATE** 3/8/2018	**COORDINATES** 28°15.803' S, 153°33.901 E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.5m	**CHECKED BY** M.Oliver

COMMENTS Composite samples HA40-1 to HA40-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.1		HA40-0.15				SILT, Clayey red brown, low plasticity some fine sand and gravel. dry at surface, damp by 0.5m	
0.5							End of Hole	

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Oct 2018

ENVIRONMENTAL BOREHOLE HA41

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 3/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.757' S, 153°33.963 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA41-1 to HA41-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.1		HA41-0.15				CLAY - red brown, medium - high plasticity stiff/very stiff , damp to moist	
0.5							End of Hole	

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produced by ESlog.ESdat.net on 17 Oct 2018

ENVIRONMENTAL BOREHOLE HA42

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 3/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.752' S, 153°33.990 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA42-1 to HA42-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA42-0.15				CLAY - red brown, medium - high plasticity stiff/very stiff , moist	
0.5							End of Hole	

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ENVIRONMENTAL BOREHOLE HA43

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 3/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.758' S, 153°34.066 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA43-1 to HA43-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA43-0.15				CLAY silty - red brown, medium plasticity , some gravel/cobbles, dry to damp, lots of organic material - cultivated paddock	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA44

PROJECT NUMBER J8961	**DRILLING DATE** 3/8/2018	**COORDINATES** 28°15.705' S, 153°34.172 E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.5m	**CHECKED BY** M.Oliver

COMMENTS Composite samples HA44-1 to HA44-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA44-0.15				CLAY silty - red brown, medium plasticity, stiff , isolated gravel damp,	
0.5							End of Hole	

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ENVIRONMENTAL BOREHOLE HA45

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 3/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.752' S, 153°34.183 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA45-1 to HA45-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA45-0.15				CLAY silty - red brown, medium plasticity, stiff , isolated gravel damp,	
0.5							End of Hole	

ENVIRONMENTAL BOREHOLE HA46

PROJECT NUMBER J8961
PROJECT NAME Tweed Valley Hospital
CLIENT Health Infrastructure NSW
ADDRESS 771 Cudgen Road, Cudgen

DRILLING DATE 3/8/2018
DRILLING COMPANY OCTIEF
DRILLER Matthew Conroy
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.5m

COORDINATES 28°15.713' S, 153°34.198 E
COORD SYS
SURFACE ELEVATION -
LOGGED BY M.Conroy
CHECKED BY M.Oliver

COMMENTS Composite samples HA46-1 to HA46-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.2		HA46-0.15				CLAY - brown, red, high plasticity stiff/very stiff , moist, traces gravel	
0.5							End of Hole	

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ENVIRONMENTAL BOREHOLE HA47

PROJECT NUMBER J8961	**DRILLING DATE** 3/8/2018	**COORDINATES** 28°15.747' S, 153°34.214 E
PROJECT NAME Tweed Valley Hospital	**DRILLING COMPANY** OCTIEF	**COORD SYS**
CLIENT Health Infrastructure NSW	**DRILLER** Matthew Conroy	**SURFACE ELEVATION** -
ADDRESS 771 Cudgen Road, Cudgen	**DRILLING METHOD** Hand Auger	**LOGGED BY** M.Conroy
	TOTAL DEPTH 0.5m	**CHECKED BY** M.Oliver

COMMENTS Composite samples HA47-1 to HA47-4

Depth (m)	PID	Penetration Resistance	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	0.0		HA47-0.15				CLAY - brown, red, high plasticity stiff/very stiff , moist,some gravel	
0.5							End of Hole	

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Engineering Log - Borehole

Borehole No.: BH1

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555510.00
Northing: 6873397.00
RL: 23.20
Total Depth: 1.60
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with Washbore		23.0	0.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, moist.		M	St		0.1	U50	PP: 400kPa
												0.3	PP	150-200kPa
			0.4			CH	**Silty CLAY**: As above but very stiff and cobbles.		M	VSt				
			0.8	Residual		CI	**Silty CLAY**: Very stiff, medium plasticity, red brown with some orange brown mottling, moist.		M	VSt		1		
		22.0	1.0											
			1.2	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown mottled dark grey.	XW		VLS			SPT	8,17,25, N=42
			1.4			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW		MS				
			1.6				**1.60m: COMMENCE NMLC CORING**							
		21.0	2.0											
			3.0											
		20.0												
			4.0											
		19.0												
			5.0											
		18.0												
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH1

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555510.00
Northing: 6873397.00
RL: 23.20
Total Depth: 17.40
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		23.0	0.5				Commence NMLC Coring at 1.60m						
		22.5	1.0										
		22.0	1.5										
		21.5	2.0	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered to fresh, dark grey, moderately fractured.	SW-Fr					J10° Pl/Ro,St,O S25° 30mm cly & VLS J15° Pl/Ro,St,O
		21.0	2.2			BAS	**BASALT**: As above but medium strength, distinctly weathered, dark grey mottled orange brown	DW					J5° Pl/Sm,St,O J70° Un/Ro,Vr,O
			2.5			BAS	**BASALT**: As above but medium strength to high .strength	DW			56%		J10° Un/Ro,St,O J30° Pl/Sm,St,O S35° 15mm VLS J40° Pl/Sm,St,O J10° Pl/Sm,Cn,O J15° Un/Sm,St,O 600mm HFZ VN10° Plagioclase
		20.5	3.0										
		20.0	3.4			BAS	**BASALT**: .As above but medium strength	DW					S5° 10mm J5° Un/Ro,St,O J45° Un/Sm,St,C
		19.5	4.0										
		19.0	4.5								38%		170mm Partically BZ
		18.5	5.0										
		18.0	5			BAS	**BASALT**: As above but high strength and distinctly .weathered to slightly weathered	DW-SW					J45° Stp/Ro,St,O S10° 10mm J5° Un/Ro,St,O J15° Pl/Ro,St,O
		17.5	5.5										
			6.0										J20° Pl/Sm,Cn,C VN5° Plagioclase J5° Un/Pl,Vr,C

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH1

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555510.00
Northing: 6873397.00
RL: 23.20
Total Depth: 17.40
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring	SWL	17.0	6			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			38%		J10° Un/Ro,Cn,O J25° Pl/Sm,Cn,O
		16.5	6.5 6.4			BAS	**BASALT**: As above but high strength, distinctly weathered to slightly weathered, with some medium strength and very high strength zones.	DW-SW					S10° 10mm VLS J90° Pl/Sm,Vr,O J5° Pl/Sm,Vr,O
		16.0	7.0 7.1				**BASALT**: As above but low strength to medium strength and extremely weathered to distinctly weathered	MW-DW					J15° Pl/Sm,St,O J50° Pl/Sm,Vr,O J35° Pl/Sm,Vr,O J15° Un/Ro,Ct,O
			7.2			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					J10° Pl/Sm,Cn,O S20° 30mm VLS 2650mm HFZ
		15.5	7.5 7.4			BAS	**BASALT**: As above but low strength and extremely weathered.	XW			7%		
		15.0	8.0										
		14.5	8.5										
		14.0	9.0										
		13.5	9.5										
		13.0	10.0 10.05			Cl	**Silty CLAY**: Very stiff, medium plasticity, dark grey mottled orange brown, extremely weathered basalt layers throughout, moist.				0%		
		12.5	10.5										
		12.0	11.0										
		11.5	11.5										
		11.5	11.6 12.0				**CORE LOSS**						

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH1

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555510.00
Northing: 6873397.00
RL: 23.20
Total Depth: 17.40
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		11.0	12.1				**CORE LOSS**				0%		
						CI	**Silty CLAY**: Very stiff, medium plasticity, dark grey mottled orange brown, extremely weathered basalt layers throughout, moist.						
		10.5	12.5										
			13.0										
		10.0											
			13.5								0%		
		9.5											
			13.8										
			14.0			BAS	**BASALT**: Very low strength, extremely weathered, dark grey.	XW					
		9.0	14.2										
						BAS	**BASALT**: As above but very high strength and slightly weathered, hardly any fractures.	SW					J5° Pl/Ro,Cn,O J5° Pl/Sm,Cn,O J5° Pl/Sm,Cn,O J40° Un/Ro,Cn,O J5° Pl/Ro,Cn,O J5° Pl/Ro,Cn,O J5° Pl/Sm,Cn,O
			14.5										
		8.5											
			15.0										J15° Pl/Sm,Cn,O
		8.0											
			15.5										J5° Pl/Ro,Cn,O
		7.5											
			16.0								95%		
		7.0											J5° Pl/Ro,Cn,O
			16.5										
		6.5											
			17.0										
		6.0											
			17.4				**17.40m: BOREHOLE TERMINATED**						
		5.5											
			18.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Borehole

Borehole No.: BH2

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555532.40
Northing: 6873454.10
RL: 24.10
Total Depth: 3.10

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with T.C Bit		24.0	0.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, with some fine to coarse sized gravel, moist.		M	St		0.15	U50	PP: 300kPa
			0.4			CH	**Silty CLAY**: As above but very stiff and with some cobbles.		M	VSt				
		23.0	1.0									1	SPT	11,9,11, N=20: PP=300-400kPa
			1.5	Residual		CH	**Silty CLAY**: Very stiff, high plasticity, red brown, moist.		M	VSt				
		22.0	2.0			CI	**Silty CLAY**: As above but medium plasticity, red brown mottled orange brown and grey.		M	VSt				
Washbore			2.8	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown mottled dark grey.	XW		VLS		2.5	SPT	6,11,18, N=29
		21.0	3.0											
			3.1				**3.10m: COMMENCE NMLC CORING**							
		20.0	4.0											
		19.0	5.0											
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH2

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555532.40
Northing: 6873454.10
RL: 24.10
Total Depth: 9.80
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		24.0	0.0										
		23.5	0.5										
		23.0	1.0										
		22.5	1.5										
		22.0	2.0										
		21.5	2.5										
		21.0	3.0				Commence NMLC Coring at 3.10m						
		20.5	3.5	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered to .fresh, dark grey, slightly fractured	SW-Fr			81%		S5° 60mm cly & VLS S15° 70mm cly & VLS J5° Pl/Ro,Vn,O J20° Stp/Ro,St,O J5° Pl/Sm,Cn,C S5° 25mm VLS J5° Pl/Sm,Cn,O J5° Un/Ro,Cn,O S10° 30mm VLS
		20.0	4.0										
		19.5	4.5										
		19.0	5.0								64%		J20° Un/Ro,Vr,O J5° Pl/Sm,Cn,O S15° 40mm VLS J40° Pl/Sm,Ct,O J5° Pl/Sm,Ct,O 10mm cly & VLS S30° 60mm VLS & cly
		18.5	5.5										
			6.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH2

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555532.40
Northing: 6873454.10
RL: 24.10
Total Depth: 9.80
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 01/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		18.0	6.5	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered to fresh, dark grey, slightly fractured.	SW-Fr			64%		S15° 15mm VLS J15° Pl/Sm,Vr,O S20° 40mm VLS J30° Pl/Sm,Cn,O
		17.5	6.7			BAS	**BASALT**: As above but medium strength, distinctly weathered, highly fractured.	DW					S25° 15mm
		17.0	7.0 6.9			BAS	**BASALT**: As above but very high strength and slightly weathered to fresh.	SW-Fr					J20° Pl/Sm,St,O 50mm HFZ 90mm HFZ
			7.25			BAS	**BASALT**: As above but medium strength, distinctly weathered, orange brown, highly fractured.	DW					J45° Pl/Sm,St,O 190mm HFZ
		16.5	7.5 7.5			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					70mm BZ
			7.65			BAS	**BASALT**: As above but medium strength, distinctly weathered, orange brown and grey.	DW			35%		J15° Pl/Sm,Cn,O J30° Pl/Ro,St,O 150mm BZ
		16.0	8.0 7.9			BAS	**BASALT**: As above but very high strength and slightly weathered to fresh.	SW-Fr					50mm BZ 60mm BZ S5° cly & VLS J5° Pl/Ro,Cn,O
		15.5	8.5										J5° Pl/Ro,Cn,O
			8.7			BAS	**BASALT**: As above but low strength to medium strength and extremely weathered to distinctly weathered.	XW-DW					J45° Un/Sm,Cn,O J10° Pl/Ro,St,O J30° Un/Ro,St,O J5° Pl/Ro,Vr,O
		15.0	9.0 9			BAS	**BASALT**: As above but very high strength and slightly weathered to fresh.	SW-Fr			32%		S5° 35mm VLS
			9.35			BAS	**BASALT**: As above but low strength to medium strength and extremely weathered to distinctly weathered.	XW-DW					270mm HFZ
		14.5	9.5 9.8										200mm CZ
		14.0	10.0				**9.80m: BOREHOLE TERMINATED**						
		13.5	10.5										
		13.0	11.0										
		12.5	11.5										
			12.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Borehole

Borehole No.: BH3

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555581.40
Northing: 6873502.40
RL: 25.30
Total Depth: 7.95
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 31/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with T.C Bit		25.0	0.2	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, with some fine to coarse sized gravel, moist.		M	St		0.2 –	PP	150kPa
						CH	**Silty CLAY**: As above but with some cobbles.		M	St				
			0.6			CH	**Silty CLAY**: As above but very stiff.		M	VSt				
		24.0	1.0									1	SPT	4,8,7, N=15: PP=300-350kPa
			1.5	Residual		CH	**Silty CLAY**: Stiff, high plasticity, red brown trace of grey mottling, trace of extremely weathered basalt gravel, moist.		M	St		1.5	D	
		23.0	2.0									2.5	SPT	3,3,7, N=10: PP=150-200kPa
			2.9			CH	**Silty CLAY**: As above but very stiff.		M	VSt				
Washbore with Rock Roller		22.0	3.0											
			3.6	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown mottled dark grey.	XW		VLS				
		21.0	4.0									4	SPT	18,19,30/130mm, N*=54
			4.5			BAS	**BASALT**: As above but low strength.	XW		LS				
			4.7			BAS	**BASALT**: As above but medium strength, distinctly weathered, dark grey mottled orange brown.	DW		MS				
			4.9			BAS	**BASALT**: As above but low strength and extremely weathered.	XW		LS				
		20.0	5.0									5.5	SPT	30/100mm, N*=90
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH3

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555581.40
Northing: 6873502.40
RL: 25.30
Total Depth: 7.95
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 31/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore with Rock Roller		19.0	6			BAS	**BASALT**: As above but low strength to medium strength and extremely weathered to distinctly weathered.	XW-DW		LS-MS				
			6.8			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW		MS				
			7.0									7	SPT	30/140mm, N*=64
		18.0	7			BAS	**BASALT**: As above but low strength and extremely weathered.	XW		LS				
			7.3			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW		MS				
			7.8			BAS	**BASALT**: As above but high strength and slightly weathered.	SW		HS				
			8.0 7.95				**7.95m: BOREHOLE TERMINATED**							
		17.0	9.0											
		16.0	10.0											
		15.0	11.0											
		14.0	12.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH4

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555582.40
Northing: 6873458.60
RL: 26.70
Total Depth: 0.90
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 31/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger		26.0	0.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, with some fine to coarse sized gravel, moist.		M	St		0.1 0.2	PP U50	150kPa PP: 290kPa
			0.5				**Silty CLAY**: As above but very stiff and with some cobbles.					0.5 0.6	PP D	300kPa
			0.8	Bedrock		CH	**BASALT**: Medium strength, distinctly weathered, dark grey stained orange brown.		M	VSt				
			1.0			BAS		DW		MS				
		25.0					**0.90m: COMMENCE NMLC CORING**							
			2.0											
		24.0												
			3.0											
		23.0												
			4.0											
		22.0												
			5.0											
		21.0												
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH4

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555582.40
Northing: 6873458.60
RL: 26.70
Total Depth: 10.10
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 31/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		26.5	0.5				Commence NMLC Coring at 0.90m						
		26.0	1.0	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered, dark grey stained orange brown, moderately to highly fractured.	SW					J10° Un/Ro,Vr,O 10mm cly J10° Pl/Sm,Vr,O S10° 10mm cly S5° 15mm cly J5° Pl/Sm,Cn,O
		25.5	1.5										S40° 30mm cly
		25.0	2.0										S15° 30mm cly J20° Pl/Sm,Ct,O J15° Pl/Sm,Vr,O 10mm cly J15° Stp/Sm,St,O 100mm HFZ
		24.5	2.5			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW			17%		260mm HFZ 100mm BZ 400mm HFZ
		24.0	3.0			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					120mm BZ J50° Un/Sm,St,O J15° Pl/Sm,Cn,O J20° Pl/Sm,Cn,C 110mm HFZ J30° Stp/Sm,Vr,O J40° Pl/Sm,Cn,O 30mm HFZ J5° Pl/Sm,St,O 180mm BZ
		23.5	3.5								23%		30mm CZ 50mm CZ S15° with VLS & cly J5° Pl/Sm,Ct,O S15° with 25mm VLS S15° with 25mm VLS J5° Pl/Sm,Cn,O J5° Pl/Sm,Cn,O S20° with VLS S5° with VLS
		23.0	4.0										S10° 20mm J5° Pl/Sm,St,O J5° Pl/Sm,St,O J15° Un/Ro,St,O
		22.5	4.5										S15° with 30mm VLS & cly J40° Pl/Sm,St,O J15° Pl/Sm,Vr,O 20mm BZ 50mm
		22.0	5.0								65%		J10° Pl/Ro,Cn,O
		21.5	5.5										
		21.0	6.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH4

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555582.40
Northing: 6873458.60
RL: 26.70
Total Depth: 10.10
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 31/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		20.5	6.5			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			65%		J10° Pl/Ro,Cn,O 40mm BZ J30° Pl/Sm,St,O J5° Un/Ro,Cn,O S5° with 15mm VLS
		20.0	7.0										S15° 25mm VLS S20° 50mm VLS J5° Pl/Ro,Cn,O J10° Pl/Sm,Vr,O VLS & cly J5° Pl/Sm,Vr,O with VLS & cly J5° Pl/Sm,Vr,O J5° Pl/Sm,Vr,O S15° with VLS
		19.5	7.5								73%		J5° Pl/Ro,Cn,O 50mm BZ
		19.0	8.0										S10° 30mm
		18.5	8.5										S15° 20mm J20° Pl/Sm,Cn,O J35° Pl/Sm,Cn,O S25° 25mm VLS
		18.0	9.0										J15° Pl/Sm,Cn,O J10° Pl/Sm,Cn,O S10° 50mm VLS
		17.5	9.5								72%		J5° Pl/Sm,Cn,O J10° Pl/Sm,Vr,O 10mm VLS
		17.0	10.0										S5° 30mm VLS J5° Pl/Sm,St,O S15° 20mm VLS J15° Un/Ro,St,O J70° Un/Ro,St,O
		16.5	10.1				**10.10m: BOREHOLE TERMINATED**						
		16.0	10.5										
		15.5	11.0										
		15.0	11.5										
			12.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Borehole

Borehole No.: BH5

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555622.80
Northing: 6873483.70
RL: 26.80
Total Depth: 1.30
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with Was		26.0	0.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, with some fine to coarse sized gravel, moist.		M	St				
			0.7	Residual		CH	**Silty CLAY**: As above but very stiff and with some cobbles.		M	VSt				
			0.9			CI	**Silty CLAY**: Hard, medium plasticity, red brown, moist.		M	H		1	SPT	15,24/150mm, N*=48
			1.0 1.1	Bedrock		BAS	**BASALT**: Low strength, extremely weathered, orange brown mottled dark grey.	XW		LS				
			1.3				**1.30m: COMMENCE NMLC CORING**							
		25.0	2.0											
		24.0	3.0											
		23.0	4.0											
		22.0	5.0											
		21.0	6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH5

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555622.80
Northing: 6873483.70
RL: 26.80
Total Depth: 6.95
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		26.5	0.5				Commence NMLC Coring at 1.30m						
		26.0	1.0										
		25.5	1.5	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered, dark grey with some orange brown staining.	SW			46%		J15° Pl/Sm,Cn,O
		25.0	1.7			BAS	**BASALT**: As above but medium strength, distinctly weathered, highly fractured.	DW					J40° Pl/Sm,St,O 40mm CZ with cly & VLS J60° Pl/Sm,Vr,C 130mm BZ
			2.0 1.95			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					J40° Pl/Sm,Vr,O J45° Pl/Sm,Vr,O 140mm HFZ
		24.5	2.3			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW					250mm BZ
			2.5 2.52			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			11%		J10° Pl/Ro,Vr,O with VLS & cly 200mm HFZ
		24.0	3.0										J45° Stp/Ro,Vr,O J5° Pl/Sm,Cn,O J5° Pl/Sm,Cn,O 50mm BZ
		23.5	3.41			BAS	**BASALT**: As above but very low strength and extremely weathered.	< SW			35%		J5° Pl/Ro,Vr,O 160mm CZ with VLS
			3.57			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					100mm BZ
		23.0	4.0										40mm CZ with VLS 50mm BZ
		22.5	4.5								45%		S10° 20mm J45° Pl/Sm,Cn,O J10° Pl/Sm,Vr,O J20° Pl/Sm,Vr,O S45° 30mm
		22.0	5.0 4.95			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW					J50° Stp/Ro,Cn,O S10° 20mm 200mm HFZ
		21.5	5.25			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			10%		80mm CZ J5° Pl/Sm,Cn,O J35° Pl/Ro,Ct,O 170mm HFZ
			5.5										J5° Pl/Sm,Ct,O J25° Pl/Sm,Ct,O J40° Un/Ro,Cn,O S10° with VLS
		21.0	6.0										J15° Pl/Sm,Cn,O J15° Pl/Sm,Cn,O

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

Morrison Geotechnic Pty Ltd
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Engineering Log - Cored Borehole

Borehole No.: BH5

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555622.80
Northing: 6873483.70
RL: 26.80
Total Depth: 6.95

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		20.5	6.5			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			65%		J40° Pl/Sm,Cn,C J10° Pl/Sm,Cn,C J10° Pl/Sm,Cn,O J5° Pl/Ro,St,O S20° 10mm BZ
		20.0	7.0 6.95				**6.95m: BOREHOLE TERMINATED**						
		19.5	7.5										
		19.0	8.0										
		18.5	8.5										
		18.0	9.0										
		17.5	9.5										
		17.0	10.0										
		16.5	10.5										
		16.0	11.0										
		15.5	11.5										
		15.0	12.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Borehole

Borehole No.: BH6

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555579.90
Northing: 6873410.10
RL: 27.00
Total Depth: 8.00

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with T.C Bit		27.0	0.0											
			0.2	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, moist.		M	St				
						CH	**Silty CLAY**: As above but with some cobbles.		M	St		0.5 –	PP	150kPa
		26.0	1.0											
			1			CH	**Silty CLAY**: As above but with some fine to coarse sized gravel and no cobbles.		M	St		1	SPT	2,2,2, N=4: PP=150-200kPa
			1.8											
		25.0	2.0	Residual		CI	**Silty CLAY**: Hard, medium plasticity, red brown mottled grey, with some extremely weathered basalt lenses, moist.		M	H				
			2.7									2.5	SPT	7,21,15, N=36
Washbore with Rock Roller		24.0	3.0	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown mottled dark grey.	XW		VLS				
		23.0	4.0									4	SPT	23,30/120mm, N*=75
		22.0	5.0											
												5.5	SPT	22,22,26, N=48
		21.0	6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH6

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555579.90
Northing: 6873410.10
RL: 27.00
Total Depth: 8.00

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore with Rock Roller		21.0												
			6.5	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown .mottled dark grey	XW		VLS				
		20.0	7.0			BAS	**BASALT**: As above but low strength and dark grey mottled orange .brown	XW		LS		7	SPT	30/75mm, N*=120
			7.2			BAS	**BASALT**: .As above but medium strength and distinctly weathered	DW		MS				
		19.0	8.0				**8.00m: COMMENCE NMLC CORING**							
		18.0	9.0											
		17.0	10.0											
		16.0	11.0											
		15.0	12.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Tests & Results
U50 Undisturbed 50mm diam tube.
D Disturbed sample.
SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
PP Hand penetrometer estimate of unconfined compressive strength, kPa.
S Vane shear value kPa
DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH6

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555579.90
Northing: 6873410.10
RL: 27.00
Total Depth: 14.50
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		21.0											
		20.5	6.5										
		20.0	7.0										
		19.5	7.5										
		19.0	8.0				Commence NMLC Coring at 8.00m						
		18.9	8.1	B		BAS	**BASALT**: High strength, slightly weathered, dark grey with some orange brown staining, highly fractured.	SW			0%		HFZ 100mm J35° St/Ro,St,O J15° Stp/Ro,St,O J50° Un/Sm,Vr,O J25° Pl/Sm,Cn,O
		18.5	8.5			BAS	**BASALT**: As above but very high strength.						HFZ 120mm S10° J5° Un/Ro,Cn,O BZ 110mm CZ 100mm J50° Pl/Sm,Vr,O
		18.0	9.0										CZ 70mm
		17.5	9.5										S30° HFZ 100mm S5° J5° Pl/Sm,Cn,O S10° 50mm
		17.0	10.0			BAS	**BASALT**: As above but very low strength and extremely weathered.	XW			10%		J5° Pl/Sm,Cn,O J25° Pl/Sm,St,O J15° Stp/Ro,Vr,O
		16.9	10.1										CZ with VLS 230mm
		16.5	10.5			BAS	**BASALT**: As above but high strength and slightly weathered.	XW					J10° Pl/Sm,Ct,O Cly 15mm J10° Pl/Sm,Ct,O Cly 20mm
		16.0	11.0				**BASALT**: As above but very low strength, extremely weathered, with some clay lenses.						
		15.5	11.5			BAS	**BASALT**: As above but low strength and no clay lenses.	XW			18%		
		15.0	12.0			BAS	**BASALT**: As above but very low strength, with some highly fractured zones and crushed zones.	XW					

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH6

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555579.90
Northing: 6873410.10
RL: 27.00
Total Depth: 14.50

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 30/07/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		15.0											
		14.5	12.5			BAS	**BASALT**: As above but very low strength, with some highly fractured zones and crushed zones.	XW					
			12.3			BAS	**BASALT**: As above but low strength.	XW					J70° Un/Ro,St,O J10° Stp/Ro,St,C J40° Stp/Ro,St,O
		14.0	13.0								18%		CZ 50mm with Cly & VLS CZ 70mm with Cly & VLS CZ throughout ranging between 10mm & 30mm
		13.5	13.5										
			13.7			BAS	**BASALT**: As above but low strength to medium strength and distinctly weathered.	DW					J5° Pl/Sm,Cn,O CZ 30mm with Cly & VLS J5° Pl/Sm,Cn,O
		13.0	14.0				**BASALT**: As above but high strength and slightly weathered.				18%		J15° Pl/Sm,Cn,O HFZ 100mm J30° Pl/Sm,Cn,O
			14.25				**BASALT**: As above but very low strength and extremely weathered.						
			14.33			BAS							
		12.5	14.42			BAS	**BASALT**: High strength and slightly weathered.						CZ 90mm
			14.5			BAS							
							14.50m: BOREHOLE TERMINATED						
		12.0	15.0										
		11.5	15.5										
		11.0	16.0										
		10.5	16.5										
		10.0	17.0										
		9.5	17.5										
		9.0	18.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Borehole

Borehole No.: BH7

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555540.70
Northing: 6873361.10
RL: 25.40
Total Depth: 2.00
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 02/08/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with Washbore with		25.0	0.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, moist.		M	St		0.1 0.3	PP	150kPa
			0.7			CH	**Silty CLAY**: As above but very stiff, with some fine to medium sized gravel, with some cobbles.		M	VSt				
			1.0									1	SPT	6,10,12, N=22
		24.0	1.05	Residual		CL	**Silty CLAY**: Hard, low plasticity, grey mottled orange brown, moist.		M	H				
			1.5	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, orange brown mottled grey.	XW		VLS				
			2.0			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW		MS				
		23.0					**2.00m: COMMENCE NMLC CORING**							
			3.0											
		22.0												
			4.0											
		21.0												
			5.0											
		20.0												
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH7

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555540.70
Northing: 6873361.10
RL: 25.40
Total Depth: 19.05
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 02/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		25.0	0.5				Commence NMLC Coring at 2.00m						
		24.5	1.0										
		24.0	1.5										
		23.5	2.0	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered to fresh, dark grey, moderately fractured.	SW-FR					J5° Pl/Sm,Cn,O J10° Pl/Sm,St,O S15° 25mm S30° 30mm S45° 20mm VLS S20° 15mm J15° Pl/Sm,St,O
		23.0	2.5										
		22.5	3.0			BAS	**BASALT**: As above but very low strength and extremely weathered.	XW					CZ 100mm cly & VLS
		22.0	3.5			BAS	**BASALT**: As above but low strength to medium strength and extremely weathered to distinctly weathered.	XW-DW					BZ 150mm HFZ 450mm
		21.5	4.0			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW			13%		BZ 70mm J25° Stp/Ro,Cn,O J25° Un/Ro,Cn,O J5° Pl/Sm,Cn,O J5° Pl/Sm,Vr,O S5° 60mm
		21.0	4.5			BAS	**BASALT**: As above but low strength to medium strength, extremely weathered to distinctly weathered, orange brown mottled grey, highly fractured, with some very high strength and slightly weathered zones.	XW-DW					J30° Pl/Ro,Cn,O J30° Pl/Sm,Vr,O J15° Pl/Sm,St,O J15° Pl/Sm,St,O J20° Pl/Sm,St,O BZ 340mm
		20.5	5.0								7%		
		20.0	5.5										
		19.5	6.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH7

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555540.70
Northing: 6873361.10
RL: 25.40
Total Depth: 19.05
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 02/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring	SWL	19.0	6.5			BAS	**BASALT**: As above but low strength to medium strength, extremely weathered to distinctly weathered, orange brown mottled grey, highly fractured, with some very high strength and slightly weathered zones.	XW-DW					HFZ 3000mm
		18.5	6.7 7.0			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW			7%		
		18.0	7.5										BZ 70mm CZ 70mm with Cly & VLS J10° Pl/Ro,St,O BZ 100mm
		17.5	8.0										J50° Pl/Ro,Cn,O
		17.0	8.5										BZ 370mm
		16.5	8.9 9.0			BAS	**BASALT**: As above but medium strength to high strength, distinctly weathered to slightly weathered, with some very high strength and extremely weathered zones.	DW-SW					S10° 20mm
		16.0	9.5								16%		S20° 20mm VLS J60° Pl/Sm,Vr,O BZ 50mm
		15.5	10.0										BZ 100mm HFZ 100mm BZ 100mm
		15.0	10.5										CZ 70mm with cly & VLS BZ 140mm J20° Pl/Ro,Ct,O S20° 30mm VLS & cly
		14.5	10.8 11.0			BAS	**BASALT**: As above but low strength and extremely weathered.	XW					HFZ 130mm
		14.0	11.5								10%		
		13.5	12.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

Morrison Geotechnic Pty Ltd
A.B.N. 051 009 878 899
PO Box 3063, Darra, QLD 4076
Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - Cored Borehole

Borehole No.: BH7

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555540.70
Northing: 6873361.10
RL: 25.40
Total Depth: 19.05

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 02/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		13.0	12.5			BAS	**BASALT**: As above but low strength and extremely weathered.	XW			10%		
		12.5	13.0										
		12.0	13.5										
			13.6			BAS	**BASALT**: As above but very low strength, with some clay seams.	XW					
		11.5	14.0								15%		
		11.0	14.5										
		10.5	15.0										
		10.0	15.4			BAS	**BASALT**: As above but very high strength, fresh, dark grey vesicular, lenses of feldspar.	Fr					J20° Stp/Ro,Cn,O
		9.5	15.5										
			16.0								100%		J5° Pl/Ro,Cn,O
		9.0	16.5										J5° Un/Ro,Cn,O
		8.5	17.0										J20° Pl/Sm,Cn,O
		8.0	17.5										J45° Pl/Sm,Cn,O
		7.5	18.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH7

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555540.70
Northing: 6873361.10
RL: 25.40
Total Depth: 19.05
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 02/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		7.0	18.5			BAS	**BASALT**: As above but very high strength, fresh, dark grey vesicular, lenses of feldspar.	Fr			100%		J30° Pl/Sm,Cn,O
		6.5	19.0										
			19.05				**19.05m: BOREHOLE TERMINATED**						
		6.0	19.5										
		5.5	20.0										
		5.0	20.5										
		4.5	21.0										
		4.0	21.5										
		3.5	22.0										
		3.0	22.5										
		2.5	23.0										
		2.0	23.5										
		1.5	24.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - Borehole

Borehole No.: BH25

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555600.30
Northing: 6873495.60
RL: 25.80
Total Depth: 1.55

Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 03/08/2018

Drilling Information				Material Description							Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger with Washbore		25.0	1.0	Slopewash		CH	**Silty CLAY**: Stiff, high plasticity, red brown, with some fine to coarse sized gravel, cobbles throughout, moist		M	St		0.3 –	PP	150-200kPa
			1.2	Bedrock		BAS	**BASALT**: Very low strength, extremely weathered, grey mottled orange brown, with some residual clay lenses.	XW		VLS		1	SPT	16,22,12, N=34
			1.45			BAS	**BASALT**: As above but medium strength and distinctly weathered.	DW		MS				
		24.0	1.55				**1.55m: COMMENCE NMLC CORING**							
		23.0	2.0											
		22.0	3.0											
		21.0	4.0											
		20.0	5.0											
			6.0											

Comments:

Authorised by: ……

Date: ……

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Tests & Results
- U50 Undisturbed 50mm diam tube.
- D Disturbed sample.
- SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
- PP Hand penetrometer estimate of unconfined compressive strength, kPa.
- S Vane shear value kPa
- DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Cored Borehole

Borehole No.: BH25

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555600.30
Northing: 6873495.60
RL: 25.80
Total Depth: 21.30
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 03/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		25.5	0.5				Commence NMLC Coring at 1.55m						
		25.0	1.0										
		24.5	1.5										
		24.0	2.0	Bedrock		BAS	**BASALT**: Very high strength, slightly weathered to fresh, dark grey with some orange brown staining, moderately fractured.	SW-Fr			60%		S5° 50mm some VLS BZ 50mm J10° Pl/Sm,Cn,O J5° Un/Sm,Cn,O S15° 40mm S15° 10mm
		23.5	2.18			BAS	**BASALT**: As above but high strength and distinctly weathered to slightly weathered.	DW-SW					J60° Pl/Sm,St,O BZ 30mm
			2.47			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					S10° 20mm S15° 10mm S30° 50mm
		23.0	3.0										
		22.5	3.5										HFZ 180mm
		22.0	3.85			BAS	**BASALT**: As above but low strength, extremely weathered, grey mottled orange brown.	XW					J15° Pl/Sm,St,O J50° Un/Ro, Vr,O J5° Pl/Sm,St,O
		21.5	4.3				**CORE LOSS**				0%		BZ 130mm
		21.0	4.5										
		20.5	5.0										
		20.0	5.1			BAS	**BASALT**: Very low strength, extremely weathered, grey mottled orange brown, numerous broken zones.	XW			0%		
			5.5										
			6.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

Morrison Geotechnic Pty Ltd
A.B.N. 051 009 878 899
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Engineering Log - Cored Borehole

Borehole No.: BH25

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555600.30
Northing: 6873495.60
RL: 25.80
Total Depth: 21.30
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 03/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		19.5	6.5			BAS	**BASALT**: Very low strength, extremely weathered, grey mottled orange brown, numerous broken zones.	XW					
		19.0	7.0										Defects cannot be assessed due to XW rock
		18.5	7.5										
		18.0	8.0								0%		
		17.5	8.5										
		17.0	9.0										
		16.5	9.15				**CORE LOSS**						
		16.0	9.5 9.4			BAS	**BASALT**: ,Very low strength, extremely weathered grey mottled orange brown, numerous .broken zones	XW			0%		
		15.5	10.0										
		15.0	10.5										
		14.5	10.6			BAS	**BASALT**: As above but low strength and extremely .weathered	XW			25%		S25° 30mm VLS J10° Pl/Sm,Ct,O S15° 30mm VLS
		14.0	11.0				**BASALT**: As above but very high strength and slightly .weathered to fresh						
			11.15			BAS	**BASALT**: As above but low strength and extremely .weathered	SW-Fr					
			11.45			BAS		< W					
			11.6			BAS	**BASALT**: .As above but very high strength and fresh	Fr					
			12.0 11.9			BAS	**BASALT**: As above but low strength, extremely .weathered, numerous broken zones	XW					

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
RS Residual soil
XW Extremely weathered
DW Distinctly weathered
SW Slightly weathered
FR Fresh

Consistency
VS Very soft
S Soft
F Firm
St Stiff
VSt Very stiff
H Hard

Moisture
D Dry M Moist W Wet

Density
VL Very loose
L Loose
MD Medium dense
D Dense
VD Very dense

Rock Strength
ELS Extremely low
VLS Very low
LS Low
MS Medium
HS High
VHS Very high
EHS Extremely high

Defects
Refer to Defect Description Sheet

Morrison Geotechnic Pty Ltd
A.B.N. 051 009 878 899
PO Box 3063, Darra, QLD 4076
Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - Cored Borehole

Borehole No.: BH25

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555600.30
Northing: 6873495.60
RL: 25.80
Total Depth: 21.30
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 03/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring	SWL	13.5	12.5			BAS	**BASALT**: As above but low strength, extremely .weathered, numerous broken zones	XW			25%		
		13.0	13.0										
		12.5	13.3			BAS	**BASALT**: As above but medium strength and .distinctly weathered	DW					J15° Un/Ro,Cn,O J15° Un/Ro,Cn,O S30° 20mm VLS
		12.0	13.5			BAS	**BASALT**: As above but low strength to medium strength and extremely weathered to .distinctly weathered	XW-DW					BZ 550mm
		11.5	14.0										
		11.0	14.5										J50° Pl/Sm,Ct,C
		10.5	14.55			BAS	**BASALT**: As above but low strength and extremely .weathered	XW			0%		J25° Pl/Sm,Cn,O J30° Pl/Sm,Cn,O J50° Pl/Sm,Cn,O J35° Pl/Sm,Cn,O
		10.0	15.0										
		9.5	15.5										
		9.0	15.55			BAS	**BASALT**: .As above but very low strength	XW					
		8.5	16.0										
		8.0	16.5										
			16.55			BAS	**BASALT**: .As above but low strength	< XW					
			16.7			BAS	**BASALT**: As above but very high strength, slightly .weathered to fresh, vesicular dark grey	SW-Fr			40%		J5° Pl/Ro,Cn,O J15° Pl/Sm,Cn,O BZ 80mm
			17.0										
			17.4			BAS	**BASALT**: As above but very low strength and .extremely weathered	< XW					J10° Pl/Sm,Cn,O J5° Pl/Sm,Cn,O
			17.5										
			17.55				**CORE LOSS**						
			18.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
- D Dense
- VD Very dense

Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
- VHS Very high
- EHS Extremely high

Defects
Refer to Defect Description Sheet

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Engineering Log - Cored Borehole

Borehole No.: BH25

Job Number: GE18/144
Client: Wood & Grieve Engineers
Project: Geotechnical Invest - Tweed Valley Hospital
Location: Cudgen Road, Kingscliff

Easting: 555600.30
Northing: 6873495.60
RL: 25.80
Total Depth: 21.30
Drilling Rig: Hydrapower Scout
Driller: Redlands Drilling
Logged By: L. Bexley
Date: 03/08/2018

Drilling Information				Material Description							Rock Mass Defects		
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Class. Code	Description	Weathering	Estimated Strength (ELS VLS LS MS HS VHS EHS)	$IS_{(50)}$ MPa	RQD %	Defect Spacing (mm) (30 100 300 1000 3000)	Defect Description (type, inclination, planarity, roughness, coating, thickness)
NMLC Coring		7.5	18.15			BAS	**CORE LOSS**						
			18.5				**BASALT**: ,Very high strength, slightly weathered .vesicular dark grey	SW			57%		J10° Pl/Ro,Cn,O J15° Pl/Ro,Cn,O J15° Pl/Sm,St,O J5° Un/Ro,Cn,O BZ
		7.0	19.0										
		6.5	19.2				**CORE LOSS**						
			19.5										
		6.0	19.6			BAS	**BASALT**: Very high strength, slightly weathered to fresh, vesicular dark grey.	SW FR			32%		BZ 205mm
			19.8			BAS	**BASALT**: As above but low strength and extremely weathered.	XW					J30° Stp/Ro,Ct,O S20° 70mm VLS & cly S10° 100mm VLS & cly
		5.5	20.0										
			20.05			BAS	**BASALT**: As above but very high strength and slightly weathered.	SW					S20° 100mm VLS & cly
		5.0	20.5										HFZ 300mm
			21.0										J25° Pl/Sm,Cn,O J25° Pl/Sm,Cn,O
		4.5	21.3				**21.30m: BOREHOLE TERMINATED**						
		4.0	21.5										
			22.0										
		3.5	22.5										
		3.0	23.0										
		2.5	23.5										
		2.0	24.0										

Comments:

Authorised by: .....

Date: .....

Water
- Water level on date shown
- Water inflow
- Water outflow

Weathering
- RS Residual soil
- XW Extremely weathered
- DW Distinctly weathered
- SW Slightly weathered
- FR Fresh

Consistency
- VS Very soft
- S Soft
- F Firm
- St Stiff
- VSt Very stiff
- H Hard

Moisture
D Dry M Moist W Wet

Density
- VL Very loose
- L Loose
- MD Medium dense
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Rock Strength
- ELS Extremely low
- VLS Very low
- LS Low
- MS Medium
- HS High
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- EHS Extremely high

Defects
Refer to Defect Description Sheet

APPENDIX I CERTIFIED LABORATORY REPORTS

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

Attention: **Blake Skelhorn**

Report **603026-S**
Project name TWEED VALLEY HOSPITAL PSI
Project ID J8961
Received Date Jun 14, 2018

Client Sample ID			**PADDOCK 1**	**PADDOCK 2**	**PADDOCK 3**	**PADDOCK 4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**B18-Jn15692**	**B18-Jn15693**	**B18-Jn15694**	**B18-Jn15695**
Date Sampled			**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	0.09	0.10	0.16
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	0.09	0.1	0.16
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	0.1	0.16
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	117	81	79	80
Tetrachloro-m-xylene (surr.)	1	%	100	53	60	51
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			PADDOCK 1	PADDOCK 2	PADDOCK 3	PADDOCK 4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			B18-Jn15692	B18-Jn15693	B18-Jn15694	B18-Jn15695
Date Sampled			Jun 14, 2018	Jun 14, 2018	Jun 14, 2018	Jun 14, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	96	58	102	111
Nitrate & Nitrite (as N)	5	mg/kg	14	-	-	< 5
Total Kjeldahl Nitrogen (as N)	10	mg/kg	2300	-	-	2300
Total Nitrogen (as N)	10	mg/kg	2300	-	-	2300
Phosphorus	5	mg/kg	4500	-	-	2300
% Moisture	1	%	24	20	23	20
Heavy Metals						
Arsenic	2	mg/kg	4.4	5.3	5.5	6.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	15	30	13
Copper	5	mg/kg	57	39	66	33
Lead	5	mg/kg	17	10	20	9.2
Mercury	0.1	mg/kg	0.2	0.2	0.1	0.1
Nickel	5	mg/kg	19	20	17	21
Zinc	5	mg/kg	140	130	120	110

Client Sample ID			PADDOCK 5	PADDOCK 6	QA1	SHED
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**B18-Jn15696**	**B18-Jn15697**	**B18-Jn15698**	**B18-Jn15699**
Date Sampled			**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	130
TRH C29-C36	50	mg/kg	-	-	-	130
TRH C10-36 (Total)	50	mg/kg	-	-	-	260
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
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	-	-	-	180
TRH >C34-C40	100	mg/kg	-	-	-	< 100
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.05	< 0.05	0.13	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.05	< 0.05	0.13	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	0.13	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	86	78	88	101
Tetrachloro-m-xylene (surr.)	1	%	53	60	66	65

Client Sample ID			PADDOCK 5	PADDOCK 6	QA1	SHED
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**B18-Jn15696**	**B18-Jn15697**	**B18-Jn15698**	**B18-Jn15699**
Date Sampled			**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**	**Jun 14, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	113	107	117	104
% Moisture	1	%	22	20	23	11
Heavy Metals						
Arsenic	2	mg/kg	4.3	4.0	5.9	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	2.6
Chromium	5	mg/kg	14	12	28	30
Copper	5	mg/kg	49	51	68	64
Lead	5	mg/kg	12	10	19	74
Mercury	0.1	mg/kg	0.1	0.2	0.1	< 0.1
Nickel	5	mg/kg	21	22	17	18
Zinc	5	mg/kg	160	160	120	1600

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 20, 2018	14 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Jun 20, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 20, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 20, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B14			
Organochlorine Pesticides	Melbourne	Jun 20, 2018	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Jun 20, 2018	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Jun 20, 2018	28 Day
- Method: APHA 4500-NO3/NO2 Nitrate-Nitrite Nitrogen by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Jun 20, 2018	28 Day
- Method: LTM-INO-4310 TKN in Waters & Soils by FIA			
Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P			
Phosphorus	Melbourne	Jun 20, 2018	180 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jun 14, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			
Metals M8	Melbourne	Jun 20, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED VALLEY HOSPITAL PSI
Project ID: J8961

Order No.:
Report #: 603026
Phone: 07 5500 2800
Fax:

Received: Jun 14, 2018 6:10 PM
Due: Jun 22, 2018
Priority: 5 Day
Contact Name: Blake Skelhorn

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	Eurofins | mgt Suite B14	Moisture Set	Eurofins | mgt Suite B1	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	PADDOCK 1	Jun 14, 2018		Soil	B18-Jn15692	X	X	X			X
2	PADDOCK 2	Jun 14, 2018		Soil	B18-Jn15693	X	X	X			
3	PADDOCK 3	Jun 14, 2018		Soil	B18-Jn15694	X	X	X			
4	PADDOCK 4	Jun 14, 2018		Soil	B18-Jn15695	X	X	X			X
5	PADDOCK 5	Jun 14, 2018		Soil	B18-Jn15696	X	X	X			
6	PADDOCK 6	Jun 14, 2018		Soil	B18-Jn15697	X	X	X			
7	QA1	Jun 14, 2018		Soil	B18-Jn15698	X	X	X			
8	SHED	Jun 14, 2018		Soil	B18-Jn15699	X	X	X	X		
9	RINSATE	Jun 14, 2018		Water	B18-Jn15700	X	X		X		

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NATA # 1261
Site # 23736

Company Name:	OCTIEF Pty Ltd	**Order No.:**	
Address:	Unit 34 53-57 Links Dve Yatala QLD 4207	**Report #:** **Phone:** **Fax:**	603026 07 5500 2800
Project Name:	TWEED VALLEY HOSPITAL PSI		
Project ID:	J8961		

Received:	Jun 14, 2018 6:10 PM
Due:	Jun 22, 2018
Priority:	5 Day
Contact Name:	Blake Skelhorn

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	Eurofins | mgt Suite B14	Moisture Set	Eurofins | mgt Suite B1	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
10	TRIPBLANK	Jun 14, 2018		Water	B18-Jn15701					X	
Test Counts						9	9	8	2	1	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

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 - 1999 NEPM Fractions							
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	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
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-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	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-BHC (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	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Nitrate & Nitrite (as N)	mg/kg	< 5			5	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 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	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	92			70-130	Pass	
TRH C10-C14	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	125			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	101			70-130	Pass	
Xylenes - Total	%	100			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	126			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
TRH >C10-C16	%	88			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	86			70-130	Pass	
4.4'-DDE	%	88			70-130	Pass	
4.4'-DDT	%	75			70-130	Pass	
a-BHC	%	98			70-130	Pass	
Aldrin	%	105			70-130	Pass	
b-BHC	%	86			70-130	Pass	
d-BHC	%	87			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	97			70-130	Pass	
Endosulfan II	%	98			70-130	Pass	
Endosulfan sulphate	%	94			70-130	Pass	
Endrin	%	89			70-130	Pass	
Endrin aldehyde	%	103			70-130	Pass	
Endrin ketone	%	101			70-130	Pass	
g-BHC (Lindane)	%	93			70-130	Pass	
Heptachlor	%	92			70-130	Pass	
Heptachlor epoxide	%	97			70-130	Pass	
Hexachlorobenzene	%	89			70-130	Pass	
Methoxychlor	%	109			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	87			70-130	Pass	
Dimethoate	%	72			70-130	Pass	
Ethion	%	100			70-130	Pass	
Fenitrothion	%	75			70-130	Pass	
Methyl parathion	%	80			70-130	Pass	
Mevinphos	%	93			70-130	Pass	
LCS - % Recovery							
Total Kjeldahl Nitrogen (as N)	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	106			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	117			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	116			80-120	Pass	
Mercury	%	107			75-125	Pass	
Nickel	%	112			80-120	Pass	
Zinc	%	108			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDT	S18-Jn16202	NCP	%	72			70-130	Pass	
Endrin	S18-Jn16202	NCP	%	93			70-130	Pass	
Methoxychlor	S18-Jn16202	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	B18-Jn15694	CP	%	107			70-130	Pass	
Dimethoate	B18-Jn15694	CP	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethion	B18-Jn15694	CP	%	103			70-130	Pass	
Fenitrothion	B18-Jn15694	CP	%	90			70-130	Pass	
Methyl parathion	B18-Jn15694	CP	%	90			70-130	Pass	
Mevinphos	B18-Jn15694	CP	%	88			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B18-Jn15696	CP	%	93			75-125	Pass	
Cadmium	B18-Jn15696	CP	%	104			75-125	Pass	
Chromium	B18-Jn15696	CP	%	108			75-125	Pass	
Copper	B18-Jn15696	CP	%	112			75-125	Pass	
Lead	B18-Jn15696	CP	%	111			75-125	Pass	
Mercury	B18-Jn15696	CP	%	88			70-130	Pass	
Nickel	B18-Jn15696	CP	%	109			75-125	Pass	
Zinc	B18-Jn15696	CP	%	121			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	B18-Jn15697	CP	%	100			70-130	Pass	
4.4'-DDE	B18-Jn15697	CP	%	97			70-130	Pass	
a-BHC	B18-Jn15697	CP	%	79			70-130	Pass	
Aldrin	B18-Jn15697	CP	%	80			70-130	Pass	
b-BHC	B18-Jn15697	CP	%	79			70-130	Pass	
d-BHC	B18-Jn15697	CP	%	78			70-130	Pass	
Dieldrin	B18-Jn15697	CP	%	83			70-130	Pass	
Endosulfan I	B18-Jn15697	CP	%	82			70-130	Pass	
Endosulfan II	B18-Jn15697	CP	%	86			70-130	Pass	
Endosulfan sulphate	B18-Jn15697	CP	%	84			70-130	Pass	
Endrin aldehyde	B18-Jn15697	CP	%	88			70-130	Pass	
Endrin ketone	B18-Jn15697	CP	%	92			70-130	Pass	
g-BHC (Lindane)	B18-Jn15697	CP	%	76			70-130	Pass	
Heptachlor	B18-Jn15697	CP	%	71			70-130	Pass	
Heptachlor epoxide	B18-Jn15697	CP	%	79			70-130	Pass	
Hexachlorobenzene	B18-Jn15697	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	P18-Jn16335	NCP	%	79			70-130	Pass	
TRH C10-C14	P18-Jn16318	NCP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	P18-Jn16335	NCP	%	85			70-130	Pass	
Toluene	P18-Jn16335	NCP	%	92			70-130	Pass	
Ethylbenzene	P18-Jn16335	NCP	%	94			70-130	Pass	
m&p-Xylenes	P18-Jn16335	NCP	%	94			70-130	Pass	
o-Xylene	P18-Jn16335	NCP	%	94			70-130	Pass	
Xylenes - Total	P18-Jn16335	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	P18-Jn16335	NCP	%	99			70-130	Pass	
TRH C6-C10	P18-Jn16335	NCP	%	78			70-130	Pass	
TRH >C10-C16	P18-Jn16318	NCP	%	73			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	M18-Jn19539	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
% Moisture	S18-Jn16299	NCP	%	33	33	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	B18-Jn15693	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	B18-Jn15693	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	B18-Jn15693	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	B18-Jn15693	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B18-Jn15695	CP	mg/kg	6.5	6.6	2.0	30%	Pass	
Cadmium	B18-Jn15695	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	B18-Jn15695	CP	mg/kg	13	13	4.0	30%	Pass	
Copper	B18-Jn15695	CP	mg/kg	33	33	1.0	30%	Pass	
Lead	B18-Jn15695	CP	mg/kg	9.2	9.1	1.0	30%	Pass	
Mercury	B18-Jn15695	CP	mg/kg	0.1	0.1	<1	30%	Pass	
Nickel	B18-Jn15695	CP	mg/kg	21	19	7.0	30%	Pass	
Zinc	B18-Jn15695	CP	mg/kg	110	110	1.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B18-Jn15696	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B18-Jn15696	CP	mg/kg	0.05	0.05	1.0	30%	Pass	
4.4'-DDT	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Dieldrin	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B18-Jn15696	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	B18-Jn15696	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B18-Jn15696	CP	mg/kg	4.3	4.5	5.0	30%	Pass	
Cadmium	B18-Jn15696	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	B18-Jn15696	CP	mg/kg	14	14	2.0	30%	Pass	
Copper	B18-Jn15696	CP	mg/kg	49	51	3.0	30%	Pass	
Lead	B18-Jn15696	CP	mg/kg	12	12	3.0	30%	Pass	
Mercury	B18-Jn15696	CP	mg/kg	0.1	0.1	8.0	30%	Pass	
Nickel	B18-Jn15696	CP	mg/kg	21	22	4.0	30%	Pass	
Zinc	B18-Jn15696	CP	mg/kg	160	160	4.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M18-Jn22413	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M18-Jn17496	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M18-Jn17496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M18-Jn17496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M18-Jn22413	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M18-Jn22413	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M18-Jn22413	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M18-Jn22413	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M18-Jn22413	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M18-Jn22413	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M18-Jn22413	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M18-Jn22413	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M18-Jn17496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M18-Jn17496	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M18-Jn17496	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

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Michael Brancati	Senior Analyst-Inorganic (VIC)

Glenn Jackson

National Operations 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.

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

Attention: **Blake Skelhorn**

Report **603026-W**
Project name TWEED VALLEY HOSPITAL PSI
Project ID J8961
Received Date Jun 14, 2018

Client Sample ID			**RINSATE**	**TRIPBLANK**
Sample Matrix			**Water**	**Water**
Eurofins | mgt Sample No.			**B18-Jn15700**	**B18-Jn15701**
Date Sampled			**Jun 14, 2018**	**Jun 14, 2018**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-36 (Total)	0.1	mg/L	< 0.1	-
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	100	109
Organochlorine Pesticides				
Chlordanes - Total	0.001	mg/L	< 0.001	-
4.4'-DDD	0.0001	mg/L	< 0.0001	-
4.4'-DDE	0.0001	mg/L	< 0.0001	-
4.4'-DDT	0.0001	mg/L	< 0.0001	-
a-BHC	0.0001	mg/L	< 0.0001	-
Aldrin	0.0001	mg/L	< 0.0001	-
b-BHC	0.0001	mg/L	< 0.0001	-
d-BHC	0.0001	mg/L	< 0.0001	-
Dieldrin	0.0001	mg/L	< 0.0001	-
Endosulfan I	0.0001	mg/L	< 0.0001	-
Endosulfan II	0.0001	mg/L	< 0.0001	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	-
Endrin	0.0001	mg/L	< 0.0001	-

Client Sample ID			RINSATE	TRIPBLANK
Sample Matrix			Water	Water
Eurofins | mgt Sample No.			B18-Jn15700	B18-Jn15701
Date Sampled			Jun 14, 2018	Jun 14, 2018
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Endrin aldehyde	0.0001	mg/L	< 0.0001	-
Endrin ketone	0.0001	mg/L	< 0.0001	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	-
Heptachlor	0.0001	mg/L	< 0.0001	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	-
Methoxychlor	0.0001	mg/L	< 0.0001	-
Toxaphene	0.01	mg/L	< 0.01	-
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	-
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	-
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	-
Dibutylchlorendate (surr.)	1	%	70	-
Tetrachloro-m-xylene (surr.)	1	%	112	-
Organophosphorus Pesticides				
Azinphos-methyl	0.002	mg/L	< 0.002	-
Bolstar	0.002	mg/L	< 0.002	-
Chlorfenvinphos	0.002	mg/L	< 0.002	-
Chlorpyrifos	0.02	mg/L	< 0.02	-
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	-
Coumaphos	0.02	mg/L	< 0.02	-
Demeton-S	0.02	mg/L	< 0.02	-
Demeton-O	0.002	mg/L	< 0.002	-
Diazinon	0.002	mg/L	< 0.002	-
Dichlorvos	0.002	mg/L	< 0.002	-
Dimethoate	0.002	mg/L	< 0.002	-
Disulfoton	0.002	mg/L	< 0.002	-
EPN	0.002	mg/L	< 0.002	-
Ethion	0.002	mg/L	< 0.002	-
Ethoprop	0.002	mg/L	< 0.002	-
Ethyl parathion	0.002	mg/L	< 0.002	-
Fenitrothion	0.002	mg/L	< 0.002	-
Fensulfothion	0.002	mg/L	< 0.002	-
Fenthion	0.002	mg/L	< 0.002	-
Malathion	0.002	mg/L	< 0.002	-
Merphos	0.002	mg/L	< 0.002	-
Methyl parathion	0.002	mg/L	< 0.002	-
Mevinphos	0.002	mg/L	< 0.002	-
Monocrotophos	0.002	mg/L	< 0.002	-
Naled	0.002	mg/L	< 0.002	-
Omethoate	0.002	mg/L	< 0.002	-
Phorate	0.002	mg/L	< 0.002	-
Pirimiphos-methyl	0.02	mg/L	< 0.02	-
Pyrazophos	0.002	mg/L	< 0.002	-
Ronnel	0.002	mg/L	< 0.002	-
Terbufos	0.002	mg/L	< 0.002	-
Tetrachlorvinphos	0.002	mg/L	< 0.002	-
Tokuthion	0.002	mg/L	< 0.002	-
Trichloronate	0.002	mg/L	< 0.002	-
Triphenylphosphate (surr.)	1	%	82	-

Client Sample ID			RINSATE	TRIPBLANK
Sample Matrix			**Water**	**Water**
Eurofins | mgt Sample No.			**B18-Jn15700**	**B18-Jn15701**
Date Sampled			**Jun 14, 2018**	**Jun 14, 2018**
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	-
Nickel	0.001	mg/L	< 0.001	-
Zinc	0.005	mg/L	< 0.005	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 18, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons	Melbourne	Jun 18, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 19, 2018	7 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Jun 18, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 19, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B14			
Organochlorine Pesticides	Melbourne	Jun 19, 2018	7 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Jun 19, 2018	7 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Melbourne	Jun 18, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED VALLEY HOSPITAL PSI
Project ID: J8961

Order No.:
Report #: 603026
Phone: 07 5500 2800
Fax:

Received: Jun 14, 2018 6:10 PM
Due: Jun 22, 2018
Priority: 5 Day
Contact Name: Blake Skelhorn

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	Eurofins | mgt Suite B14	Moisture Set	Eurofins | mgt Suite B1	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	PADDOCK 1	Jun 14, 2018		Soil	B18-Jn15692	X	X	X			X
2	PADDOCK 2	Jun 14, 2018		Soil	B18-Jn15693	X	X	X			
3	PADDOCK 3	Jun 14, 2018		Soil	B18-Jn15694	X	X	X			
4	PADDOCK 4	Jun 14, 2018		Soil	B18-Jn15695	X	X	X			X
5	PADDOCK 5	Jun 14, 2018		Soil	B18-Jn15696	X	X	X			
6	PADDOCK 6	Jun 14, 2018		Soil	B18-Jn15697	X	X	X			
7	QA1	Jun 14, 2018		Soil	B18-Jn15698	X	X	X			
8	SHED	Jun 14, 2018		Soil	B18-Jn15699	X	X	X	X		
9	RINSATE	Jun 14, 2018		Water	B18-Jn15700	X	X		X		

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Company Name:	OCTIEF Pty Ltd	**Order No.:**	
Address:	Unit 34 53-57 Links Dve Yatala QLD 4207	**Report #:** **Phone:** **Fax:**	603026 07 5500 2800
Project Name:	TWEED VALLEY HOSPITAL PSI		
Project ID:	J8961		

Received:	Jun 14, 2018 6:10 PM
Due:	Jun 22, 2018
Priority:	5 Day
Contact Name:	Blake Skelhorn

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	Eurofins | mgt Suite B14	Moisture Set	Eurofins | mgt Suite B1	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
10	TRIPBLANK	Jun 14, 2018		Water	B18-Jn15701					X	
Test Counts						9	9	8	2	1	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

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 - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos	mg/L	< 0.02			0.02	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.02			0.02	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
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	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	91			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
TRH C6-C10	%	128			70-130	Pass	
TRH C6-C10	%	128			70-130	Pass	
TRH >C10-C16	%	120			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	125			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	%	92			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	96			70-130	Pass	
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	107			70-130	Pass	
4.4'-DDT	%	99			70-130	Pass	
a-BHC	%	103			70-130	Pass	
Aldrin	%	102			70-130	Pass	
b-BHC	%	115			70-130	Pass	
d-BHC	%	113			70-130	Pass	
Dieldrin	%	119			70-130	Pass	
Endosulfan I	%	113			70-130	Pass	
Endosulfan II	%	124			70-130	Pass	
Endosulfan sulphate	%	96			70-130	Pass	
Endrin	%	89			70-130	Pass	
Endrin aldehyde	%	127			70-130	Pass	
Endrin ketone	%	89			70-130	Pass	
g-BHC (Lindane)	%	113			70-130	Pass	
Heptachlor	%	91			70-130	Pass	
Heptachlor epoxide	%	99			70-130	Pass	
Hexachlorobenzene	%	105			70-130	Pass	
Methoxychlor	%	76			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	108			70-130	Pass	
Dimethoate	%	88			70-130	Pass	
Ethion	%	99			70-130	Pass	
Fenitrothion	%	95			70-130	Pass	
Mevinphos	%	90			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	104			80-120	Pass	
Cadmium	%	91			80-120	Pass	
Chromium	%	93			80-120	Pass	
Copper	%	90			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	88			75-125	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	106			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M18-Jn15186	NCP	%	88			70-130	Pass	
Naphthalene	M18-Jn15186	NCP	%	88			70-130	Pass	
TRH C6-C10	M18-Jn15186	NCP	%	121			70-130	Pass	
TRH C6-C10	M18-Jn15186	NCP	%	121			70-130	Pass	
TRH >C10-C16	S18-Jn16626	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M18-Jn15186	NCP	%	118			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	S18-Jn16626	NCP	%	97			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M18-Jn15186	NCP	%	97			70-130	Pass	
Toluene	M18-Jn15186	NCP	%	93			70-130	Pass	
Ethylbenzene	M18-Jn15186	NCP	%	108			70-130	Pass	
m&p-Xylenes	M18-Jn15186	NCP	%	110			70-130	Pass	
o-Xylene	M18-Jn15186	NCP	%	112			70-130	Pass	
Xylenes - Total	M18-Jn15186	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S18-Jn09898	NCP	%	95			70-130	Pass	
4.4'-DDD	S18-Jn09898	NCP	%	75			70-130	Pass	
4.4'-DDE	S18-Jn09898	NCP	%	83			70-130	Pass	
4.4'-DDT	S18-Jn09898	NCP	%	72			70-130	Pass	
a-BHC	S18-Jn09898	NCP	%	80			70-130	Pass	
Aldrin	S18-Jn09898	NCP	%	82			70-130	Pass	
b-BHC	S18-Jn09898	NCP	%	94			70-130	Pass	
d-BHC	S18-Jn09898	NCP	%	93			70-130	Pass	
Dieldrin	S18-Jn09898	NCP	%	76			70-130	Pass	
Endosulfan I	S18-Jn09898	NCP	%	76			70-130	Pass	
Endosulfan II	S18-Jn09898	NCP	%	84			70-130	Pass	
Endosulfan sulphate	S18-Jn09898	NCP	%	85			70-130	Pass	
Endrin	S18-Jn09898	NCP	%	74			70-130	Pass	
Endrin aldehyde	S18-Jn09898	NCP	%	89			70-130	Pass	
g-BHC (Lindane)	S18-Jn09898	NCP	%	88			70-130	Pass	
Heptachlor	S18-Jn09898	NCP	%	75			70-130	Pass	
Heptachlor epoxide	S18-Jn09898	NCP	%	80			70-130	Pass	
Hexachlorobenzene	S18-Jn09898	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Jn14216	NCP	%	104			75-125	Pass	
Cadmium	M18-Jn14216	NCP	%	95			75-125	Pass	
Chromium	M18-Jn14216	NCP	%	97			75-125	Pass	
Copper	M18-Jn14216	NCP	%	94			75-125	Pass	
Lead	M18-Jn14216	NCP	%	100			75-125	Pass	
Mercury	M18-Jn14216	NCP	%	101			70-130	Pass	
Nickel	M18-Jn14216	NCP	%	96			75-125	Pass	
Zinc	M18-Jn14216	NCP	%	109			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M18-Jn15185	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Naphthalene	M18-Jn15185	NCP	mg/L	< 0.01	**	<1	30%	Pass	
TRH C6-C10	M18-Jn15185	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M18-Jn15185	NCP	mg/L	< 0.02	**	<1	30%	Pass	
TRH >C10-C16	M18-Jn16584	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M18-Jn16584	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M18-Jn16584	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M18-Jn15185	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M18-Jn16584	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M18-Jn16584	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M18-Jn16584	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M18-Jn15185	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M18-Jn15185	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M18-Jn15185	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M18-Jn15185	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M18-Jn15185	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	M18-Jn15185	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Jn17961	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4.4'-DDD	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDE	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDT	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
g-BHC (Lindane)	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M18-Jn17961	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Toxaphene	M18-Jn17961	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos	M18-Jn17961	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	M18-Jn17961	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	M18-Jn17961	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-O	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Monocrotophos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Phorate	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	M18-Jn17961	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	M18-Jn17961	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Jn14216	NCP	mg/L	0.033	0.035	5.0	30%	Pass	
Cadmium	M18-Jn14216	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M18-Jn14216	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M18-Jn14216	NCP	mg/L	0.008	0.008	3.0	30%	Pass	
Lead	M18-Jn14216	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M18-Jn14216	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M18-Jn14216	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M18-Jn14216	NCP	mg/L	0.20	0.21	2.0	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.

Authorised By

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson

National Operations 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.

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

Attention: **Matthew Conroy**

Report **611312-S**
Project name TWEED HOSPITAL CUDGEN RD
Project ID J8961
Received Date Aug 08, 2018

Client Sample ID **Sample Matrix** **Eurofins | mgt Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**SED01** **Sediment** **M18-Au09763** **Aug 03, 2018**	**SED02** **Sediment** **M18-Au09766** **Aug 03, 2018**	**QC3** **Soil** **M18-Au09769** **Aug 02, 2018**	**QC6** **Soil** **M18-Au09772** **Aug 02, 2018**
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	0.09	0.19
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	0.06
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.05	mg/kg	< 0.05	< 0.05	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	0.09	0.25
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.25
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	119	53	110	99
Tetrachloro-m-xylene (surr.)	1	%	112	58	134	88
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			SED01	SED02	QC3	QC6
Sample Matrix			**Sediment**	**Sediment**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09763**	**M18-Au09766**	**M18-Au09769**	**M18-Au09772**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 02, 2018**	**Aug 02, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	95	75	114	87
Nitrate & Nitrite (as N)	5	mg/kg	< 5	< 5	-	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	3700	2900	-	-
Total Nitrogen (as N)	10	mg/kg	3700	2900	-	-
Phosphorus	5	mg/kg	1800	1300	-	-
% Moisture	1	%	73	76	23	22
Alkali Metals						
Potassium	5	mg/kg	1000	640	-	-
Heavy Metals						
Arsenic	2	mg/kg	4.7	< 2	5.3	4.9
Cadmium	1	mg/kg	< 1	< 1	< 0.4	< 0.4
Chromium	5	mg/kg	19	< 5	21	17
Copper	5	mg/kg	82	< 5	99	33
Lead	5	mg/kg	10	< 5	17	12
Mercury	0.1	mg/kg	0.1	< 0.1	0.2	0.2
Nickel	5	mg/kg	28	< 5	20	17
Zinc	5	mg/kg	120	< 5	180	130

Client Sample ID			QC8	HA1-0.15	HA2-0.15	HA2-0.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09774**	**M18-Au09777**	**M18-Au09778**	**M18-Au09779**
Date Sampled			**Aug 03, 2018**	**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	-	< 20
TRH C10-C14	20	mg/kg	-	< 20	-	< 20
TRH C15-C28	50	mg/kg	-	< 50	-	< 50
TRH C29-C36	50	mg/kg	-	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	109	-	88
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-	< 0.5
Allyl chloride	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzene	0.1	mg/kg	-	< 0.1	-	< 0.1
Bromobenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
Bromochloromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Bromoform	0.5	mg/kg	-	< 0.5	-	< 0.5
Bromomethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Carbon disulfide	0.5	mg/kg	-	< 0.5	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-	< 0.5
Chlorobenzene	0.5	mg/kg	-	< 0.5	-	< 0.5
Chloroethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Chloroform	0.5	mg/kg	-	< 0.5	-	< 0.5
Chloromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	< 0.5

Client Sample ID			QC8	HA1-0.15	HA2-0.15	HA2-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09774	M18-Au09777	M18-Au09778	M18-Au09779
Date Sampled			Aug 03, 2018	Aug 01, 2018	Aug 01, 2018	Aug 01, 2018
Test/Reference	LOR	Unit				
Volatile Organics						
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibromomethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	< 0.1
Iodomethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-	< 0.5
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	< 0.2
Methylene Chloride	0.5	mg/kg	-	< 0.5	-	< 0.5
o-Xylene	0.1	mg/kg	-	< 0.1	-	< 0.1
Styrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-	< 0.5
Toluene	0.1	mg/kg	-	< 0.1	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	< 0.5
Trichloroethene	0.5	mg/kg	-	< 0.5	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-	< 0.5
Vinyl chloride	0.5	mg/kg	-	< 0.5	-	< 0.5
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	< 0.3
Total MAH*	0.5	mg/kg	-	< 0.5	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	-	109	-	88
Toluene-d8 (surr.)	1	%	-	110	-	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
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	-	< 100	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5

Client Sample ID			QC8	HA1-0.15	HA2-0.15	HA2-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09774	M18-Au09777	M18-Au09778	M18-Au09779
Date Sampled			Aug 03, 2018	Aug 01, 2018	Aug 01, 2018	Aug 01, 2018
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	-	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	119	-	94
p-Terphenyl-d14 (surr.)	1	%	-	99	-	92
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	0.08	0.08	0.07
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	0.08	0.08	0.07
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	104	99	101	104
Tetrachloro-m-xylene (surr.)	1	%	130	107	105	108
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			QC8	HA1-0.15	HA2-0.15	HA2-0.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09774**	**M18-Au09777**	**M18-Au09778**	**M18-Au09779**
Date Sampled			**Aug 03, 2018**	**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	106	120	123	93
% Moisture	1	%	22	26	24	29
Heavy Metals						
Arsenic	2	mg/kg	3.9	21	-	5.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	16	26	-	26
Copper	5	mg/kg	72	81	-	45
Lead	5	mg/kg	11	23	-	23
Mercury	0.1	mg/kg	0.2	0.2	-	0.2
Nickel	5	mg/kg	17	16	-	18
Zinc	5	mg/kg	150	160	-	130

Client Sample ID			HA3-0.15	HA4-0.15	HA5-0.15	HA6-0.15
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09780**	**M18-Au09781**	**M18-Au09782**	**M18-Au09783**
Date Sampled			**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	-	< 50	< 50

Client Sample ID			HA3-0.15	HA4-0.15	HA5-0.15	HA6-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09780	M18-Au09781	M18-Au09782	M18-Au09783
Date Sampled			Aug 01, 2018	Aug 01, 2018	Aug 01, 2018	Aug 01, 2018
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	-	66	71
Volatile Organics						
1.1-Dichloroethane	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	-	-
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	-	-

Client Sample ID			HA3-0.15	HA4-0.15	HA5-0.15	HA6-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09780	M18-Au09781	M18-Au09782	M18-Au09783
Date Sampled			Aug 01, 2018	Aug 01, 2018	Aug 01, 2018	Aug 01, 2018
Test/Reference	LOR	Unit				
Volatile Organics						
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	%	-	93	-	-
Toluene-d8 (surr.)	1	%	-	93	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
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	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	85	96
p-Terphenyl-d14 (surr.)	1	%	-	-	72	84

Client Sample ID			HA3-0.15	HA4-0.15	HA5-0.15	HA6-0.15
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09780	M18-Au09781	M18-Au09782	M18-Au09783
Date Sampled			Aug 01, 2018	Aug 01, 2018	Aug 01, 2018	Aug 01, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	0.35	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	0.21	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	0.56	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	0.56	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	104	109	80	121
Tetrachloro-m-xylene (surr.)	1	%	110	111	87	127
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA3-0.15	HA4-0.15	HA5-0.15	HA6-0.15
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09780**	**M18-Au09781**	**M18-Au09782**	**M18-Au09783**
Date Sampled			**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	88	110	72	87
% Moisture	1	%	25	19	35	33
Heavy Metals						
Arsenic	2	mg/kg	-	24	7.2	6.2
Cadmium	0.4	mg/kg	-	0.8	< 0.4	< 0.4
Chromium	5	mg/kg	-	26	18	17
Copper	5	mg/kg	-	70	71	35
Lead	5	mg/kg	-	18	11	9.8
Mercury	0.1	mg/kg	-	0.2	0.1	0.2
Nickel	5	mg/kg	-	16	37	25
Zinc	5	mg/kg	-	530	170	110

Client Sample ID			HA7-0.5	HA7F	HA8	HA9
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au09784**	**M18-Au09785**	**M18-Au09786**	**M18-Au09787**
Date Sampled			**Aug 01, 2018**	**Aug 02, 2018**	**Aug 02, 2018**	**Aug 02, 2018**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
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 C10-36 (Total)	50	mg/kg	< 50	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	68	-	-	-

Client Sample ID			HA7-0.5	HA7F	HA8	HA9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09784	M18-Au09785	M18-Au09786	M18-Au09787
Date Sampled			Aug 01, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
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	-	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	107	-	-	-
p-Terphenyl-d14 (surr.)	1	%	106	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			HA7-0.5	HA7F	HA8	HA9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09784	M18-Au09785	M18-Au09786	M18-Au09787
Date Sampled			Aug 01, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	96	111	97	91
Tetrachloro-m-xylene (surr.)	1	%	98	101	124	90
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	101	84	77	92
% Moisture	1	%	35	22	24	34

Client Sample ID			HA7-0.5	HA7F	HA8	HA9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09784	M18-Au09785	M18-Au09786	M18-Au09787
Date Sampled			Aug 01, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	8.6	4.5	4.5	4.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	14	14	18
Copper	5	mg/kg	22	43	60	65
Lead	5	mg/kg	11	11	12	13
Mercury	0.1	mg/kg	0.2	0.1	0.2	0.1
Nickel	5	mg/kg	28	22	22	22
Zinc	5	mg/kg	140	160	170	170

Client Sample ID			HA10	HA11	HA12	HA13
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09788	M18-Au09789	M18-Au09790	M18-Au09791
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	90	110	104	88
Tetrachloro-m-xylene (surr.)	1	%	81	118	113	109
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA10	HA11	HA12	HA13
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09788	M18-Au09789	M18-Au09790	M18-Au09791
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	90	92	94	97
% Moisture	1	%	16	24	23	18
Heavy Metals						
Arsenic	2	mg/kg	4.7	4.8	4.9	5.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	15	16	17	22
Copper	5	mg/kg	55	55	55	68
Lead	5	mg/kg	14	12	12	15
Mercury	0.1	mg/kg	0.2	0.2	0.2	0.1
Nickel	5	mg/kg	22	22	22	22
Zinc	5	mg/kg	170	160	160	170

Client Sample ID			HA14	HA15	HA16	HA17
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09792	M18-Au09793	M18-Au09794	M18-Au09795
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.08	0.05	0.06	0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.08	0.05	0.06	0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	108	102	108	105
Tetrachloro-m-xylene (surr.)	1	%	131	99	113	114
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA14	HA15	HA16	HA17
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09792	M18-Au09793	M18-Au09794	M18-Au09795
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	72	112	129	122
% Moisture	1	%	20	20	21	22
Heavy Metals						
Arsenic	2	mg/kg	5.0	4.6	5.2	5.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	20	26	27
Copper	5	mg/kg	64	71	80	94
Lead	5	mg/kg	13	16	32	55
Mercury	0.1	mg/kg	0.2	0.1	0.1	0.2
Nickel	5	mg/kg	21	18	17	20
Zinc	5	mg/kg	170	150	150	200

Client Sample ID			HA18	HA20	HA19	HA21
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09796	M18-Au09797	M18-Au09798	M18-Au09799
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.08	0.06	< 0.05	0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			HA18	HA20	HA19	HA21
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09796	M18-Au09797	M18-Au09798	M18-Au09799
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.08	0.06	< 0.05	0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	110	105	90	94
Tetrachloro-m-xylene (surr.)	1	%	119	114	96	101
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	68	119	95	122
% Moisture	1	%	25	21	33	24

Client Sample ID			HA18	HA20	HA19	HA21
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09796	M18-Au09797	M18-Au09798	M18-Au09799
Date Sampled			Aug 02, 2018	Aug 02, 2018	Aug 02, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	5.8	5.5	4.1	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	22	23	17	20
Copper	5	mg/kg	94	85	80	78
Lead	5	mg/kg	27	55	13	16
Mercury	0.1	mg/kg	0.2	0.2	0.2	0.2
Nickel	5	mg/kg	19	19	16	18
Zinc	5	mg/kg	180	170	140	150

Client Sample ID			HA22	HA23	HA24	HA25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09800	M18-Au09801	M18-Au09802	M18-Au09803
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.08	0.09	0.13	0.10
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.08	0.09	0.13	0.1
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	0.13	0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	102	101	93	95
Tetrachloro-m-xylene (surr.)	1	%	115	115	118	138
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA22	HA23	HA24	HA25
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09800	M18-Au09801	M18-Au09802	M18-Au09803
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	126	126	119	115
% Moisture	1	%	23	22	20	19
Heavy Metals						
Arsenic	2	mg/kg	5.4	5.1	5.1	5.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	26	26	30	28
Copper	5	mg/kg	85	85	74	69
Lead	5	mg/kg	33	22	14	14
Mercury	0.1	mg/kg	0.2	0.1	0.1	0.1
Nickel	5	mg/kg	18	16	13	18
Zinc	5	mg/kg	150	130	110	140

Client Sample ID			HA26	HA27	HA28	HA29
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09804	M18-Au09805	M18-Au09806	M18-Au09807
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.07	0.10	0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.07	0.1	0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	88	80	97	94
Tetrachloro-m-xylene (surr.)	1	%	117	102	104	80
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA26	HA27	HA28	HA29
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09804	M18-Au09805	M18-Au09806	M18-Au09807
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	117	112	102	111
% Moisture	1	%	23	20	22	19
Heavy Metals						
Arsenic	2	mg/kg	5.0	5.8	5.4	4.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	31	26	20
Copper	5	mg/kg	64	67	70	63
Lead	5	mg/kg	12	14	24	15
Mercury	0.1	mg/kg	0.2	< 0.1	0.1	0.2
Nickel	5	mg/kg	16	14	15	17
Zinc	5	mg/kg	140	120	130	130

Client Sample ID			HA30	HA31	HA32	HA33
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09808	M18-Au09809	M18-Au09810	M18-Au09811
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			HA30	HA31	HA32	HA33
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09808	M18-Au09809	M18-Au09810	M18-Au09811
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	117	126	110	105
Tetrachloro-m-xylene (surr.)	1	%	95	101	121	109
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	68	121	122	130
% Moisture	1	%	18	22	21	21

Client Sample ID			HA30	HA31	HA32	HA33
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09808	M18-Au09809	M18-Au09810	M18-Au09811
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	4.7	5.4	4.3	5.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	18	16	20
Copper	5	mg/kg	52	39	34	60
Lead	5	mg/kg	12	12	8.8	14
Mercury	0.1	mg/kg	0.1	0.2	0.1	0.2
Nickel	5	mg/kg	19	20	16	24
Zinc	5	mg/kg	120	120	110	150

Client Sample ID			HA34	HA35	HA36	HA37
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09812	M18-Au09813	M18-Au09814	M18-Au09815
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	0.21	0.06	0.05
4.4'-DDT	0.05	mg/kg	< 0.05	0.06	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	0.27	0.06	0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	0.27	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	83	106	112	115
Tetrachloro-m-xylene (surr.)	1	%	106	95	96	145
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA34	HA35	HA36	HA37
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09812	M18-Au09813	M18-Au09814	M18-Au09815
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	124	110	68	112
% Moisture	1	%	17	22	22	20
Heavy Metals						
Arsenic	2	mg/kg	4.7	5.7	4.4	4.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	19	17	16
Copper	5	mg/kg	41	34	34	55
Lead	5	mg/kg	10	12	11	12
Mercury	0.1	mg/kg	0.2	0.2	0.2	0.2
Nickel	5	mg/kg	18	20	21	23
Zinc	5	mg/kg	130	130	140	140

Client Sample ID			HA38	HA39	HA40	HA41
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09816	M18-Au09817	M18-Au09818	M18-Au09819
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	0.11	0.15	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.11	0.15	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.11	0.15	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	116	105	128	133
Tetrachloro-m-xylene (surr.)	1	%	103	94	99	105
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA38	HA39	HA40	HA41
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09816	M18-Au09817	M18-Au09818	M18-Au09819
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	127	66	126	127
% Moisture	1	%	25	22	20	34
Heavy Metals						
Arsenic	2	mg/kg	5.5	7.6	6.2	9.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	16	14	13
Copper	5	mg/kg	42	42	35	34
Lead	5	mg/kg	16	12	8.6	13
Mercury	0.1	mg/kg	0.2	0.2	0.1	0.2
Nickel	5	mg/kg	17	25	18	28
Zinc	5	mg/kg	130	140	110	140

Client Sample ID			HA42	HA43	HA44	HA45
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09820	M18-Au09821	M18-Au09822	M18-Au09823
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			HA42	HA43	HA44	HA45
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09820	M18-Au09821	M18-Au09822	M18-Au09823
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	115	94	119	108
Tetrachloro-m-xylene (surr.)	1	%	110	77	93	87
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	85	96	99	106
% Moisture	1	%	27	24	20	24

Client Sample ID			HA42	HA43	HA44	HA45
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09820	M18-Au09821	M18-Au09822	M18-Au09823
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.9	4.2	3.7	4.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	11	10	18	12
Copper	5	mg/kg	38	49	38	55
Lead	5	mg/kg	12	10	8.5	9.8
Mercury	0.1	mg/kg	0.1	0.1	0.2	0.2
Nickel	5	mg/kg	24	20	15	22
Zinc	5	mg/kg	140	170	120	170

Client Sample ID			HA46	HA47	HA48	HA49
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09824	M18-Au09825	M18-Au09826	M18-Au09827
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	97	89	90	85
Tetrachloro-m-xylene (surr.)	1	%	96	90	94	85
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			HA46	HA47	HA48	HA49
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M18-Au09824	M18-Au09825	M18-Au09826	M18-Au09827
Date Sampled			Aug 03, 2018	Aug 03, 2018	Aug 03, 2018	Aug 03, 2018
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	105	105	103	103
% Moisture	1	%	26	24	22	21
Heavy Metals						
Arsenic	2	mg/kg	4.5	4.8	4.2	4.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	16	11	11
Copper	5	mg/kg	66	86	77	58
Lead	5	mg/kg	12	13	11	14
Mercury	0.1	mg/kg	0.2	0.2	0.2	0.2
Nickel	5	mg/kg	22	23	18	21
Zinc	5	mg/kg	170	170	160	180

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Aug 09, 2018	14 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Aug 09, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 09, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B10			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 09, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Aug 09, 2018	14 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Aug 09, 2018	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Aug 09, 2018	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Melbourne	Aug 09, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Melbourne	Aug 09, 2018	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Aug 09, 2018	28 Day
- Method: APHA 4500-NO3/NO2 Nitrate-Nitrite Nitrogen by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Aug 09, 2018	28 Day
- Method: LTM-INO-4310 TKN in Waters & Soils by FIA			
Eurofins | mgt Suite B19			
Phosphorus	Melbourne	Aug 11, 2018	180 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Alkali Metals	Melbourne	Aug 11, 2018	180 Day
- Method: USEPA 6010 Alkali Metals			
% Moisture	Melbourne	Aug 08, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

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Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGER RD
Project ID: J8961

Order No.:
Report #: 611312
Phone: 07 5500 2800
Fax:

Received: Aug 8, 2018 9:03 AM
Due: Aug 15, 2018
Priority: 5 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	BTEX	Eurofins | mgt Suite B14	Volatile Organics	Moisture Set	Total Recoverable Hydrocarbons	Eurofins | mgt Suite B10	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	GW1	Aug 03, 2018		Water	M18-Au09761	X		X						X
2	INTRA	Aug 03, 2018		Water	M18-Au09762	X		X						X
3	SED01	Aug 03, 2018		Sediment	M18-Au09763	X		X		X				X
4	WS01	Aug 03, 2018		Water	M18-Au09764	X		X						X
5	WS02	Aug 03, 2018		Water	M18-Au09765	X		X						X
6	SED02	Aug 03, 2018		Sediment	M18-Au09766	X		X		X				X
7	QC1	Aug 01, 2018		Water	M18-Au09767								X	
8	QC2	Aug 01, 2018		Water	M18-Au09768							X		
9	QC3	Aug 02, 2018		Soil	M18-Au09769	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	QC4	Aug 01, 2018		Water	M18-Au09770							X		
11	QC5	Aug 02, 2018		Water	M18-Au09771	X		X						
12	QC6	Aug 02, 2018		Soil	M18-Au09772	X		X		X				
13	QC7	Aug 02, 2018		Water	M18-Au09773	X		X						
14	QC8	Aug 03, 2018		Soil	M18-Au09774	X		X		X				
15	QC9	Aug 02, 2018		Water	M18-Au09775	X		X						
16	QC10	Aug 03, 2018		Water	M18-Au09776	X		X						
17	HA1-0.15	Aug 01, 2018		Soil	M18-Au09777				X	X		X		
18	HA2-0.15	Aug 01, 2018		Soil	M18-Au09778			X		X				
19	HA2-0.5	Aug 01, 2018		Soil	M18-Au09779				X	X		X		
20	HA3-0.15	Aug 01, 2018		Soil	M18-Au09780		X	X		X	X			
21	HA4-0.15	Aug 01, 2018		Soil	M18-Au09781	X		X	X	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
22	HA5-0.15	Aug 01, 2018		Soil	M18-Au09782					X		X		
23	HA6-0.15	Aug 01, 2018		Soil	M18-Au09783					X		X		
24	HA7-0.5	Aug 01, 2018		Soil	M18-Au09784					X		X		
25	HA7F	Aug 02, 2018		Soil	M18-Au09785	X		X		X				
26	HA8	Aug 02, 2018		Soil	M18-Au09786	X		X		X				
27	HA9	Aug 02, 2018		Soil	M18-Au09787	X		X		X				
28	HA10	Aug 02, 2018		Soil	M18-Au09788	X		X		X				
29	HA11	Aug 02, 2018		Soil	M18-Au09789	X		X		X				
30	HA12	Aug 02, 2018		Soil	M18-Au09790	X		X		X				
31	HA13	Aug 02, 2018		Soil	M18-Au09791	X		X		X				
32	HA14	Aug 02, 2018		Soil	M18-Au09792	X		X		X				
33	HA15	Aug 02, 2018		Soil	M18-Au09793	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
34	HA16	Aug 02, 2018		Soil	M18-Au09794	X		X		X				
35	HA17	Aug 02, 2018		Soil	M18-Au09795	X		X		X				
36	HA18	Aug 02, 2018		Soil	M18-Au09796	X		X		X				
37	HA20	Aug 02, 2018		Soil	M18-Au09797	X		X		X				
38	HA19	Aug 02, 2018		Soil	M18-Au09798	X		X		X				
39	HA21	Aug 02, 2018		Soil	M18-Au09799	X		X		X				
40	HA22	Aug 03, 2018		Soil	M18-Au09800	X		X		X				
41	HA23	Aug 03, 2018		Soil	M18-Au09801	X		X		X				
42	HA24	Aug 03, 2018		Soil	M18-Au09802	X		X		X				
43	HA25	Aug 03, 2018		Soil	M18-Au09803	X		X		X				
44	HA26	Aug 03, 2018		Soil	M18-Au09804	X		X		X				
45	HA27	Aug 03, 2018		Soil	M18-Au09805	X		X		X				

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Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	BTEX	Eurofins | mgt Suite B14	Volatile Organics	Moisture Set	Total Recoverable Hydrocarbons	Eurofins | mgt Suite B10	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
46	HA28	Aug 03, 2018		Soil	M18-Au09806	X		X		X				
47	HA29	Aug 03, 2018		Soil	M18-Au09807	X		X		X				
48	HA30	Aug 03, 2018		Soil	M18-Au09808	X		X		X				
49	HA31	Aug 03, 2018		Soil	M18-Au09809	X		X		X				
50	HA32	Aug 03, 2018		Soil	M18-Au09810	X		X		X				
51	HA33	Aug 03, 2018		Soil	M18-Au09811	X		X		X				
52	HA34	Aug 03, 2018		Soil	M18-Au09812	X		X		X				
53	HA35	Aug 03, 2018		Soil	M18-Au09813	X		X		X				
54	HA36	Aug 03, 2018		Soil	M18-Au09814	X		X		X				
55	HA37	Aug 03, 2018		Soil	M18-Au09815	X		X		X				
56	HA38	Aug 03, 2018		Soil	M18-Au09816	X		X		X				
57	HA39	Aug 03, 2018		Soil	M18-Au09817	X		X		X				

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Project Name: TWEED HOSPITAL CUDGER RD
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Phone: 07 5500 2800
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Priority: 5 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	BTEX	Eurofins | mgt Suite B14	Volatile Organics	Moisture Set	Total Recoverable Hydrocarbons	Eurofins | mgt Suite B10	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
58	HA40	Aug 03, 2018		Soil	M18-Au09818	X		X		X				
59	HA41	Aug 03, 2018		Soil	M18-Au09819	X		X		X				
60	HA42	Aug 03, 2018		Soil	M18-Au09820	X		X		X				
61	HA43	Aug 03, 2018		Soil	M18-Au09821	X		X		X				
62	HA44	Aug 03, 2018		Soil	M18-Au09822	X		X		X				
63	HA45	Aug 03, 2018		Soil	M18-Au09823	X		X		X				
64	HA46	Aug 03, 2018		Soil	M18-Au09824	X		X		X				
65	HA47	Aug 03, 2018		Soil	M18-Au09825	X		X		X				
66	HA48	Aug 03, 2018		Soil	M18-Au09826	X		X		X				
67	HA49	Aug 03, 2018		Soil	M18-Au09827	X		X		X				
Test Counts						57	1	59	3	56	1	7	1	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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 - 1999 NEPM Fractions							
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	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	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	
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	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	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	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	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-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Nitrate & Nitrite (as N)	mg/kg	< 5			5	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 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	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	111			70-130	Pass	
Toluene	%	114			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total	%	100			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	75			70-130	Pass	
1.1.1-Trichloroethane	%	77			70-130	Pass	
1.2-Dichlorobenzene	%	98			70-130	Pass	
1.2-Dichloroethane	%	110			70-130	Pass	
Trichloroethene	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	75			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
TRH >C10-C16	%	127			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	99			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	76			70-130	Pass	
Chrysene	%	92			70-130	Pass	
Dibenz(a.h)anthracene	%	90			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	100			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	108			70-130	Pass	
4.4'-DDE	%	122			70-130	Pass	
4.4'-DDT	%	114			70-130	Pass	
a-BHC	%	117			70-130	Pass	
Aldrin	%	125			70-130	Pass	
b-BHC	%	113			70-130	Pass	
d-BHC	%	111			70-130	Pass	
Dieldrin	%	122			70-130	Pass	
Endosulfan I	%	119			70-130	Pass	
Endosulfan II	%	114			70-130	Pass	
Endosulfan sulphate	%	117			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	%	119			70-130	Pass	
Endrin aldehyde	%	126			70-130	Pass	
Endrin ketone	%	127			70-130	Pass	
g-BHC (Lindane)	%	116			70-130	Pass	
Heptachlor	%	118			70-130	Pass	
Heptachlor epoxide	%	118			70-130	Pass	
Hexachlorobenzene	%	116			70-130	Pass	
Methoxychlor	%	112			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	127			70-130	Pass	
Dimethoate	%	80			70-130	Pass	
Ethion	%	127			70-130	Pass	
Fenitrothion	%	107			70-130	Pass	
Methyl parathion	%	88			70-130	Pass	
Mevinphos	%	102			70-130	Pass	
LCS - % Recovery							
Total Kjeldahl Nitrogen (as N)	%	93			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	114			80-120	Pass	
Cadmium	%	95			80-120	Pass	
Chromium	%	119			80-120	Pass	
Copper	%	120			80-120	Pass	
Lead	%	117			80-120	Pass	
Mercury	%	116			75-125	Pass	
Nickel	%	116			80-120	Pass	
Zinc	%	119			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M18-Au08469	NCP	%	91			70-130	Pass	
TRH C10-C14	M18-Au12815	NCP	%	129			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M18-Au08469	NCP	%	103			70-130	Pass	
Toluene	M18-Au08469	NCP	%	100			70-130	Pass	
Ethylbenzene	M18-Au08469	NCP	%	89			70-130	Pass	
m&p-Xylenes	M18-Au08469	NCP	%	92			70-130	Pass	
o-Xylene	M18-Au08469	NCP	%	93			70-130	Pass	
Xylenes - Total	M18-Au08469	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M18-Au09228	NCP	%	86			70-130	Pass	
1.1.1-Trichloroethane	M18-Au08469	NCP	%	70			70-130	Pass	
1.2-Dichlorobenzene	M18-Au08469	NCP	%	112			70-130	Pass	
1.2-Dichloroethane	M18-Au08469	NCP	%	114			70-130	Pass	
Trichloroethene	M18-Au08469	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M18-Au08469	NCP	%	75			70-130	Pass	
TRH C6-C10	M18-Au08469	NCP	%	91			70-130	Pass	
TRH >C10-C16	M18-Au12815	NCP	%	128			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B18-Au08852	NCP	%	73			70-130	Pass	
Acenaphthylene	B18-Au08852	NCP	%	79			70-130	Pass	
Anthracene	B18-Au08852	NCP	%	80			70-130	Pass	
Benz(a)anthracene	B18-Au08852	NCP	%	72			70-130	Pass	
Benzo(a)pyrene	B18-Au08852	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	B18-Au08852	NCP	%	86			70-130	Pass	
Benzo(g.h.i)perylene	B18-Au08852	NCP	%	89			70-130	Pass	
Benzo(k)fluoranthene	B18-Au08852	NCP	%	78			70-130	Pass	
Chrysene	B18-Au08852	NCP	%	74			70-130	Pass	
Dibenz(a.h)anthracene	B18-Au08852	NCP	%	94			70-130	Pass	
Fluoranthene	B18-Au08852	NCP	%	81			70-130	Pass	
Fluorene	B18-Au08852	NCP	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B18-Au08852	NCP	%	92			70-130	Pass	
Naphthalene	B18-Au08852	NCP	%	75			70-130	Pass	
Phenanthrene	B18-Au08852	NCP	%	78			70-130	Pass	
Pyrene	B18-Au08852	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Au09777	CP	%	109			70-130	Pass	
Dimethoate	M18-Au09777	CP	%	86			70-130	Pass	
Ethion	M18-Au09777	CP	%	119			70-130	Pass	
Fenitrothion	M18-Au09777	CP	%	86			70-130	Pass	
Methyl parathion	M18-Au09777	CP	%	80			70-130	Pass	
Mevinphos	M18-Au09777	CP	%	93			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Au09777	CP	%	96			75-125	Pass	
Cadmium	M18-Au09777	CP	%	91			75-125	Pass	
Chromium	M18-Au09777	CP	%	115			75-125	Pass	
Copper	M18-Au09777	CP	%	108			75-125	Pass	
Lead	M18-Au09777	CP	%	111			75-125	Pass	
Mercury	M18-Au09777	CP	%	112			70-130	Pass	
Nickel	M18-Au09777	CP	%	112			75-125	Pass	
Zinc	M18-Au09777	CP	%	107			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Au09783	CP	%	105			70-130	Pass	
4.4'-DDE	M18-Au09783	CP	%	107			70-130	Pass	
4.4'-DDT	M18-Au09783	CP	%	121			70-130	Pass	
a-BHC	M18-Au09783	CP	%	107			70-130	Pass	
Aldrin	M18-Au09783	CP	%	115			70-130	Pass	
b-BHC	M18-Au09783	CP	%	104			70-130	Pass	
d-BHC	M18-Au09783	CP	%	101			70-130	Pass	
Dieldrin	M18-Au09783	CP	%	112			70-130	Pass	
Endosulfan I	M18-Au09783	CP	%	111			70-130	Pass	
Endosulfan II	M18-Au09783	CP	%	109			70-130	Pass	
Endosulfan sulphate	M18-Au09783	CP	%	109			70-130	Pass	
Endrin	M18-Au09783	CP	%	113			70-130	Pass	
Endrin aldehyde	M18-Au09783	CP	%	103			70-130	Pass	
Endrin ketone	M18-Au09783	CP	%	117			70-130	Pass	
g-BHC (Lindane)	M18-Au09783	CP	%	106			70-130	Pass	
Heptachlor	M18-Au09783	CP	%	111			70-130	Pass	
Heptachlor epoxide	M18-Au09783	CP	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene	M18-Au09783	CP	%	107			70-130	Pass	
Methoxychlor	M18-Au09783	CP	%	114			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Au09787	CP	%	91			70-130	Pass	
Dimethoate	M18-Au09787	CP	%	94			70-130	Pass	
Ethion	M18-Au09787	CP	%	106			70-130	Pass	
Fenitrothion	M18-Au09787	CP	%	83			70-130	Pass	
Methyl parathion	M18-Au09787	CP	%	70			70-130	Pass	
Mevinphos	M18-Au09787	CP	%	77			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Au09789	CP	%	96			75-125	Pass	
Cadmium	M18-Au09789	CP	%	91			75-125	Pass	
Chromium	M18-Au09789	CP	%	116			75-125	Pass	
Copper	M18-Au09789	CP	%	110			75-125	Pass	
Lead	M18-Au09789	CP	%	111			75-125	Pass	
Mercury	M18-Au09789	CP	%	107			70-130	Pass	
Nickel	M18-Au09789	CP	%	112			75-125	Pass	
Zinc	M18-Au09789	CP	%	99			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Au09793	CP	%	99			70-130	Pass	
4.4'-DDE	M18-Au09793	CP	%	84			70-130	Pass	
4.4'-DDT	M18-Au09793	CP	%	110			70-130	Pass	
a-BHC	M18-Au09793	CP	%	98			70-130	Pass	
Aldrin	M18-Au09793	CP	%	103			70-130	Pass	
b-BHC	M18-Au09793	CP	%	95			70-130	Pass	
d-BHC	M18-Au09793	CP	%	93			70-130	Pass	
Dieldrin	M18-Au09793	CP	%	96			70-130	Pass	
Endosulfan I	M18-Au09793	CP	%	101			70-130	Pass	
Endosulfan II	M18-Au09793	CP	%	100			70-130	Pass	
Endosulfan sulphate	M18-Au09793	CP	%	105			70-130	Pass	
Endrin	M18-Au09793	CP	%	107			70-130	Pass	
Endrin aldehyde	M18-Au09793	CP	%	96			70-130	Pass	
Endrin ketone	M18-Au09793	CP	%	106			70-130	Pass	
g-BHC (Lindane)	M18-Au09793	CP	%	99			70-130	Pass	
Heptachlor	M18-Au09793	CP	%	99			70-130	Pass	
Heptachlor epoxide	M18-Au09793	CP	%	100			70-130	Pass	
Hexachlorobenzene	M18-Au09793	CP	%	97			70-130	Pass	
Methoxychlor	M18-Au09793	CP	%	107			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Au09799	CP	%	95			75-125	Pass	
Cadmium	M18-Au09799	CP	%	89			75-125	Pass	
Chromium	M18-Au09799	CP	%	116			75-125	Pass	
Copper	M18-Au09799	CP	%	107			75-125	Pass	
Lead	M18-Au09799	CP	%	111			75-125	Pass	
Mercury	M18-Au09799	CP	%	105			70-130	Pass	
Nickel	M18-Au09799	CP	%	113			75-125	Pass	
Zinc	M18-Au09799	CP	%	112			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Au09803	CP	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE	M18-Au09803	CP	%	89			70-130	Pass	
4.4'-DDT	M18-Au09803	CP	%	109			70-130	Pass	
a-BHC	M18-Au09803	CP	%	113			70-130	Pass	
Aldrin	M18-Au09803	CP	%	118			70-130	Pass	
b-BHC	M18-Au09803	CP	%	102			70-130	Pass	
d-BHC	M18-Au09803	CP	%	100			70-130	Pass	
Dieldrin	M18-Au09803	CP	%	115			70-130	Pass	
Endosulfan I	M18-Au09803	CP	%	114			70-130	Pass	
Endosulfan II	M18-Au09803	CP	%	107			70-130	Pass	
Endosulfan sulphate	M18-Au09803	CP	%	107			70-130	Pass	
Endrin	M18-Au09803	CP	%	121			70-130	Pass	
Endrin aldehyde	M18-Au09803	CP	%	109			70-130	Pass	
Endrin ketone	M18-Au09803	CP	%	106			70-130	Pass	
g-BHC (Lindane)	M18-Au09803	CP	%	111			70-130	Pass	
Heptachlor	M18-Au09803	CP	%	113			70-130	Pass	
Heptachlor epoxide	M18-Au09803	CP	%	111			70-130	Pass	
Hexachlorobenzene	M18-Au09803	CP	%	105			70-130	Pass	
Methoxychlor	M18-Au09803	CP	%	109			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Au09807	CP	%	102			70-130	Pass	
Dimethoate	M18-Au09807	CP	%	72			70-130	Pass	
Ethion	M18-Au09807	CP	%	94			70-130	Pass	
Fenitrothion	M18-Au09807	CP	%	94			70-130	Pass	
Methyl parathion	M18-Au09807	CP	%	71			70-130	Pass	
Mevinphos	M18-Au09807	CP	%	71			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Au09813	CP	%	112			70-130	Pass	
4.4'-DDE	M18-Au09813	CP	%	106			70-130	Pass	
4.4'-DDT	M18-Au09813	CP	%	103			70-130	Pass	
a-BHC	M18-Au09813	CP	%	107			70-130	Pass	
Aldrin	M18-Au09813	CP	%	115			70-130	Pass	
b-BHC	M18-Au09813	CP	%	104			70-130	Pass	
d-BHC	M18-Au09813	CP	%	103			70-130	Pass	
Dieldrin	M18-Au09813	CP	%	112			70-130	Pass	
Endosulfan I	M18-Au09813	CP	%	113			70-130	Pass	
Endosulfan II	M18-Au09813	CP	%	109			70-130	Pass	
Endosulfan sulphate	M18-Au09813	CP	%	112			70-130	Pass	
Endrin	M18-Au09813	CP	%	117			70-130	Pass	
Endrin aldehyde	M18-Au09813	CP	%	107			70-130	Pass	
Endrin ketone	M18-Au09813	CP	%	117			70-130	Pass	
g-BHC (Lindane)	M18-Au09813	CP	%	107			70-130	Pass	
Heptachlor	M18-Au09813	CP	%	113			70-130	Pass	
Heptachlor epoxide	M18-Au09813	CP	%	111			70-130	Pass	
Hexachlorobenzene	M18-Au09813	CP	%	107			70-130	Pass	
Methoxychlor	M18-Au09813	CP	%	116			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Au09817	CP	%	129			70-130	Pass	
Dimethoate	M18-Au09817	CP	%	101			70-130	Pass	
Ethion	M18-Au09817	CP	%	121			70-130	Pass	
Fenitrothion	M18-Au09817	CP	%	124			70-130	Pass	
Methyl parathion	M18-Au09817	CP	%	91			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mevinphos	M18-Au09817	CP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Au09819	CP	%	93			75-125	Pass	
Cadmium	M18-Au09819	CP	%	91			75-125	Pass	
Chromium	M18-Au09819	CP	%	117			75-125	Pass	
Copper	M18-Au09819	CP	%	115			75-125	Pass	
Lead	M18-Au09819	CP	%	114			75-125	Pass	
Mercury	M18-Au09819	CP	%	111			70-130	Pass	
Nickel	M18-Au09819	CP	%	112			75-125	Pass	
Zinc	M18-Au09819	CP	%	104			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Au09823	CP	%	101			70-130	Pass	
4.4'-DDE	M18-Au09823	CP	%	96			70-130	Pass	
4.4'-DDT	M18-Au09823	CP	%	126			70-130	Pass	
a-BHC	M18-Au09823	CP	%	99			70-130	Pass	
Aldrin	M18-Au09823	CP	%	94			70-130	Pass	
b-BHC	M18-Au09823	CP	%	95			70-130	Pass	
d-BHC	M18-Au09823	CP	%	125			70-130	Pass	
Dieldrin	M18-Au09823	CP	%	101			70-130	Pass	
Endosulfan I	M18-Au09823	CP	%	96			70-130	Pass	
Endosulfan II	M18-Au09823	CP	%	98			70-130	Pass	
Endosulfan sulphate	M18-Au09823	CP	%	101			70-130	Pass	
Endrin	M18-Au09823	CP	%	115			70-130	Pass	
Endrin aldehyde	M18-Au09823	CP	%	90			70-130	Pass	
Endrin ketone	M18-Au09823	CP	%	108			70-130	Pass	
g-BHC (Lindane)	M18-Au09823	CP	%	101			70-130	Pass	
Heptachlor	M18-Au09823	CP	%	105			70-130	Pass	
Heptachlor epoxide	M18-Au09823	CP	%	94			70-130	Pass	
Hexachlorobenzene	M18-Au09823	CP	%	96			70-130	Pass	
Methoxychlor	M18-Au09823	CP	%	124			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	M18-Au10624	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	M18-Au10624	NCP	mg/kg	510	390	26	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09769	CP	%	23	20	12	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Fluoranthene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M18-Au09774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M18-Au09774	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M18-Au09774	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M18-Au09774	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M18-Au09774	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09774	CP	mg/kg	3.9	4.2	7.0	30%	Pass	
Cadmium	M18-Au09774	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09774	CP	mg/kg	16	16	5.0	30%	Pass	
Copper	M18-Au09774	CP	mg/kg	72	76	5.0	30%	Pass	
Lead	M18-Au09774	CP	mg/kg	11	11	6.0	30%	Pass	
Mercury	M18-Au09774	CP	mg/kg	0.2	0.2	10	30%	Pass	
Nickel	M18-Au09774	CP	mg/kg	17	18	6.0	30%	Pass	
Zinc	M18-Au09774	CP	mg/kg	150	150	4.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M18-Au10496	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M18-Au12814	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M18-Au12814	NCP	mg/kg	280	310	10	30%	Pass	
TRH C29-C36	M18-Au12814	NCP	mg/kg	150	180	20	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M18-Au10496	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M18-Au10496	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M18-Au10496	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M18-Au10496	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M18-Au10496	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M18-Au10496	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Styrene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M18-Au10496	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M18-Au10496	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M18-Au12814	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M18-Au12814	NCP	mg/kg	450	510	13	30%	Pass	
TRH >C34-C40	M18-Au12814	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09777	CP	mg/kg	21	21	<1	30%	Pass	
Cadmium	M18-Au09777	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09777	CP	mg/kg	26	26	1.0	30%	Pass	
Copper	M18-Au09777	CP	mg/kg	81	81	1.0	30%	Pass	
Lead	M18-Au09777	CP	mg/kg	23	24	1.0	30%	Pass	
Mercury	M18-Au09777	CP	mg/kg	0.2	0.2	3.0	30%	Pass	
Nickel	M18-Au09777	CP	mg/kg	16	16	1.0	30%	Pass	
Zinc	M18-Au09777	CP	mg/kg	160	160	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09784	CP	%	35	34	2.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M18-Au09786	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M18-Au09786	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Demeton-O	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M18-Au09786	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M18-Au09786	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M18-Au09786	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09788	CP	mg/kg	4.7	4.6	4.0	30%	Pass	
Cadmium	M18-Au09788	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09788	CP	mg/kg	15	18	15	30%	Pass	
Copper	M18-Au09788	CP	mg/kg	55	53	3.0	30%	Pass	
Lead	M18-Au09788	CP	mg/kg	14	13	5.0	30%	Pass	
Mercury	M18-Au09788	CP	mg/kg	0.2	0.2	1.0	30%	Pass	
Nickel	M18-Au09788	CP	mg/kg	22	21	4.0	30%	Pass	
Zinc	M18-Au09788	CP	mg/kg	170	160	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09789	CP	mg/kg	4.8	4.8	1.0	30%	Pass	
Cadmium	M18-Au09789	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09789	CP	mg/kg	16	16	1.0	30%	Pass	
Copper	M18-Au09789	CP	mg/kg	55	55	1.0	30%	Pass	
Lead	M18-Au09789	CP	mg/kg	12	12	<1	30%	Pass	
Mercury	M18-Au09789	CP	mg/kg	0.2	0.2	4.0	30%	Pass	
Nickel	M18-Au09789	CP	mg/kg	22	22	1.0	30%	Pass	
Zinc	M18-Au09789	CP	mg/kg	160	160	1.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Au09792	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M18-Au09792	CP	mg/kg	0.08	0.06	17	30%	Pass	
4.4'-DDT	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Aldrin	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M18-Au09792	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M18-Au09792	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09794	CP	%	21	21	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09798	CP	mg/kg	4.1	4.7	13	30%	Pass	
Cadmium	M18-Au09798	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09798	CP	mg/kg	17	19	13	30%	Pass	
Copper	M18-Au09798	CP	mg/kg	80	89	11	30%	Pass	
Lead	M18-Au09798	CP	mg/kg	13	15	15	30%	Pass	
Mercury	M18-Au09798	CP	mg/kg	0.2	0.1	16	30%	Pass	
Nickel	M18-Au09798	CP	mg/kg	16	17	10	30%	Pass	
Zinc	M18-Au09798	CP	mg/kg	140	160	12	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09799	CP	mg/kg	11	12	2.0	30%	Pass	
Cadmium	M18-Au09799	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09799	CP	mg/kg	20	20	<1	30%	Pass	
Copper	M18-Au09799	CP	mg/kg	78	78	1.0	30%	Pass	
Lead	M18-Au09799	CP	mg/kg	16	16	1.0	30%	Pass	
Mercury	M18-Au09799	CP	mg/kg	0.2	0.2	5.0	30%	Pass	
Nickel	M18-Au09799	CP	mg/kg	18	19	1.0	30%	Pass	
Zinc	M18-Au09799	CP	mg/kg	150	150	1.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Au09802	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M18-Au09802	CP	mg/kg	0.13	0.13	2.0	30%	Pass	
4.4'-DDT	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin aldehyde	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M18-Au09802	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M18-Au09802	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09804	CP	%	23	23	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M18-Au09806	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M18-Au09806	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Monocrotophos	M18-Au09806	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M18-Au09806	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M18-Au09806	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09808	CP	mg/kg	4.7	4.9	4.0	30%	Pass	
Cadmium	M18-Au09808	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09808	CP	mg/kg	23	20	10	30%	Pass	
Copper	M18-Au09808	CP	mg/kg	52	51	2.0	30%	Pass	
Lead	M18-Au09808	CP	mg/kg	12	13	4.0	30%	Pass	
Mercury	M18-Au09808	CP	mg/kg	0.1	0.1	2.0	30%	Pass	
Nickel	M18-Au09808	CP	mg/kg	19	18	6.0	30%	Pass	
Zinc	M18-Au09808	CP	mg/kg	120	120	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09809	CP	mg/kg	5.4	5.4	<1	30%	Pass	
Cadmium	M18-Au09809	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09809	CP	mg/kg	18	18	2.0	30%	Pass	
Copper	M18-Au09809	CP	mg/kg	39	40	2.0	30%	Pass	
Lead	M18-Au09809	CP	mg/kg	12	12	1.0	30%	Pass	
Mercury	M18-Au09809	CP	mg/kg	0.2	0.1	8.0	30%	Pass	
Nickel	M18-Au09809	CP	mg/kg	20	20	2.0	30%	Pass	
Zinc	M18-Au09809	CP	mg/kg	120	130	2.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Au09812	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M18-Au09812	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M18-Au09812	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09814	CP	%	22	22	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M18-Au09816	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M18-Au09816	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M18-Au09816	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M18-Au09816	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M18-Au09816	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09818	CP	mg/kg	6.2	6.1	2.0	30%	Pass	
Cadmium	M18-Au09818	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09818	CP	mg/kg	14	13	5.0	30%	Pass	
Copper	M18-Au09818	CP	mg/kg	35	38	6.0	30%	Pass	
Lead	M18-Au09818	CP	mg/kg	8.6	9.3	8.0	30%	Pass	
Mercury	M18-Au09818	CP	mg/kg	0.1	0.1	2.0	30%	Pass	
Nickel	M18-Au09818	CP	mg/kg	18	25	31	30%	Fail	Q15
Zinc	M18-Au09818	CP	mg/kg	110	120	8.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au09819	CP	mg/kg	9.5	9.5	1.0	30%	Pass	
Cadmium	M18-Au09819	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M18-Au09819	CP	mg/kg	13	13	2.0	30%	Pass	
Copper	M18-Au09819	CP	mg/kg	34	34	2.0	30%	Pass	
Lead	M18-Au09819	CP	mg/kg	13	13	1.0	30%	Pass	
Mercury	M18-Au09819	CP	mg/kg	0.2	0.2	1.0	30%	Pass	
Nickel	M18-Au09819	CP	mg/kg	28	29	3.0	30%	Pass	
Zinc	M18-Au09819	CP	mg/kg	140	140	1.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Au09822	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M18-Au09822	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M18-Au09822	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au09824	CP	%	26	25	3.0	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
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Michael Brancati	Senior Analyst-Inorganic (VIC)

Glenn Jackson

National Operations 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.

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

Attention: **Matthew Conroy**

Report **611312-W**
Project name TWEED HOSPITAL CUDGEN RD
Project ID J8961
Received Date Aug 08, 2018

Client Sample ID			**GW1**	**INTRA**	**WS01**	**WS02**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**M18-Au09761**	**M18-Au09762**	**M18-Au09764**	**M18-Au09765**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	61	61	50	52
Tetrachloro-m-xylene (surr.)	1	%	97	123	65	67
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02

Client Sample ID			GW1	INTRA	WS01	WS02
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**M18-Au09761**	**M18-Au09762**	**M18-Au09764**	**M18-Au09765**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	90	102	54	57
Nitrate & Nitrite (as N)	0.05	mg/L	9.6	9.7	0.56	0.23
Phosphate total (as P)	0.05	mg/L	0.36	0.13	0.06	0.06
Total Kjeldahl Nitrogen (as N)	0.2	mg/L	0.2	< 0.5	0.5	0.3
Total Nitrogen (as N)	0.2	mg/L	9.8	9.7	1.1	0.53
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.002	0.001	0.012	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	0.001	0.017	0.002
Zinc	0.005	mg/L	0.020	0.018	0.077	0.010

Client Sample ID			QC1	QC2	QC4	QC5
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			M18-Au09767	M18-Au09768	M18-Au09770	M18-Au09771
Date Sampled			Aug 01, 2018	Aug 01, 2018	Aug 01, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	-	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	-	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	-	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	-	< 0.1	< 0.1	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	-	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	-	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	-	< 0.1	< 0.1	-
TRH C10-36 (Total)	0.1	mg/L	-	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	113	117	99	-
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	%	-	75	69	-
p-Terphenyl-d14 (surr.)	1	%	-	101	87	-
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001

Client Sample ID			QC1	QC2	QC4	QC5
Sample Matrix			Water	Water	Water	Water
Eurofins | mgt Sample No.			M18-Au09767	M18-Au09768	M18-Au09770	M18-Au09771
Date Sampled			Aug 01, 2018	Aug 01, 2018	Aug 01, 2018	Aug 02, 2018
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	-	63	58	72
Tetrachloro-m-xylene (surr.)	1	%	-	78	73	68
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002

Client Sample ID			QC1	QC2	QC4	QC5
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**M18-Au09767**	**M18-Au09768**	**M18-Au09770**	**M18-Au09771**
Date Sampled			**Aug 01, 2018**	**Aug 01, 2018**	**Aug 01, 2018**	**Aug 02, 2018**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pirimiphos-methyl	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	-	74	64	56
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Cadmium	0.0002	mg/L	-	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	-	0.002	< 0.001	< 0.001
Lead	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Zinc	0.005	mg/L	-	0.025	< 0.005	< 0.005

Client Sample ID			QC7	QC9	QC10
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**M18-Au09773**	**M18-Au09775**	**M18-Au09776**
Date Sampled			**Aug 02, 2018**	**Aug 02, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001

Client Sample ID			QC7	QC9	QC10
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**M18-Au09773**	**M18-Au09775**	**M18-Au09776**
Date Sampled			**Aug 02, 2018**	**Aug 02, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	61	59	72
Tetrachloro-m-xylene (surr.)	1	%	83	82	75
Organophosphorus Pesticides					
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	71	71	59
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	0.001	0.001
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	0.005	0.033

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 10, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons	Melbourne	Aug 10, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Aug 10, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins | mgt Suite B10			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 13, 2018	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Melbourne	Aug 10, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Aug 10, 2018	28 Day
- Method: APHA 4500-NO3/NO2 Nitrate-Nitrite Nitrogen by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Aug 10, 2018	7 Day
- Method: LTM-INO-4310 TKN in Waters & Soils by FIA			
Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P			
Phosphate total (as P)	Melbourne	Aug 10, 2018	28 Day
- Method: APHA 4500-P E. Phosphorous			

eurofins | mgt

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Project Name: TWEED HOSPITAL CUDGER RD
Project ID: J8961

Order No.:
Report #: 611312
Phone: 07 5500 2800
Fax:

Received: Aug 8, 2018 9:03 AM
Due: Aug 15, 2018
Priority: 5 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Metals M8	BTEX	Eurofins | mgt Suite B14	Volatile Organics	Moisture Set	Total Recoverable Hydrocarbons	Eurofins | mgt Suite B10	BTEXN and Volatile TRH	Eurofins | mgt Suite B19A: Total N (TKN, NOx), Total P
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	GW1	Aug 03, 2018		Water	M18-Au09761	X		X						X
2	INTRA	Aug 03, 2018		Water	M18-Au09762	X		X						X
3	SED01	Aug 03, 2018		Sediment	M18-Au09763	X		X		X				X
4	WS01	Aug 03, 2018		Water	M18-Au09764	X		X						X
5	WS02	Aug 03, 2018		Water	M18-Au09765	X		X						X
6	SED02	Aug 03, 2018		Sediment	M18-Au09766	X		X		X				X
7	QC1	Aug 01, 2018		Water	M18-Au09767								X	
8	QC2	Aug 01, 2018		Water	M18-Au09768							X		
9	QC3	Aug 02, 2018		Soil	M18-Au09769	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	QC4	Aug 01, 2018		Water	M18-Au09770							X		
11	QC5	Aug 02, 2018		Water	M18-Au09771	X		X						
12	QC6	Aug 02, 2018		Soil	M18-Au09772	X		X		X				
13	QC7	Aug 02, 2018		Water	M18-Au09773	X		X						
14	QC8	Aug 03, 2018		Soil	M18-Au09774	X		X		X				
15	QC9	Aug 02, 2018		Water	M18-Au09775	X		X						
16	QC10	Aug 03, 2018		Water	M18-Au09776	X		X						
17	HA1-0.15	Aug 01, 2018		Soil	M18-Au09777				X	X		X		
18	HA2-0.15	Aug 01, 2018		Soil	M18-Au09778			X		X				
19	HA2-0.5	Aug 01, 2018		Soil	M18-Au09779				X	X		X		
20	HA3-0.15	Aug 01, 2018		Soil	M18-Au09780		X	X		X	X			
21	HA4-0.15	Aug 01, 2018		Soil	M18-Au09781	X		X	X	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
22	HA5-0.15	Aug 01, 2018		Soil	M18-Au09782					X		X		
23	HA6-0.15	Aug 01, 2018		Soil	M18-Au09783					X		X		
24	HA7-0.5	Aug 01, 2018		Soil	M18-Au09784					X		X		
25	HA7F	Aug 02, 2018		Soil	M18-Au09785	X		X		X				
26	HA8	Aug 02, 2018		Soil	M18-Au09786	X		X		X				
27	HA9	Aug 02, 2018		Soil	M18-Au09787	X		X		X				
28	HA10	Aug 02, 2018		Soil	M18-Au09788	X		X		X				
29	HA11	Aug 02, 2018		Soil	M18-Au09789	X		X		X				
30	HA12	Aug 02, 2018		Soil	M18-Au09790	X		X		X				
31	HA13	Aug 02, 2018		Soil	M18-Au09791	X		X		X				
32	HA14	Aug 02, 2018		Soil	M18-Au09792	X		X		X				
33	HA15	Aug 02, 2018		Soil	M18-Au09793	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
34	HA16	Aug 02, 2018		Soil	M18-Au09794	X		X		X				
35	HA17	Aug 02, 2018		Soil	M18-Au09795	X		X		X				
36	HA18	Aug 02, 2018		Soil	M18-Au09796	X		X		X				
37	HA20	Aug 02, 2018		Soil	M18-Au09797	X		X		X				
38	HA19	Aug 02, 2018		Soil	M18-Au09798	X		X		X				
39	HA21	Aug 02, 2018		Soil	M18-Au09799	X		X		X				
40	HA22	Aug 03, 2018		Soil	M18-Au09800	X		X		X				
41	HA23	Aug 03, 2018		Soil	M18-Au09801	X		X		X				
42	HA24	Aug 03, 2018		Soil	M18-Au09802	X		X		X				
43	HA25	Aug 03, 2018		Soil	M18-Au09803	X		X		X				
44	HA26	Aug 03, 2018		Soil	M18-Au09804	X		X		X				
45	HA27	Aug 03, 2018		Soil	M18-Au09805	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
46	HA28	Aug 03, 2018		Soil	M18-Au09806	X		X		X				
47	HA29	Aug 03, 2018		Soil	M18-Au09807	X		X		X				
48	HA30	Aug 03, 2018		Soil	M18-Au09808	X		X		X				
49	HA31	Aug 03, 2018		Soil	M18-Au09809	X		X		X				
50	HA32	Aug 03, 2018		Soil	M18-Au09810	X		X		X				
51	HA33	Aug 03, 2018		Soil	M18-Au09811	X		X		X				
52	HA34	Aug 03, 2018		Soil	M18-Au09812	X		X		X				
53	HA35	Aug 03, 2018		Soil	M18-Au09813	X		X		X				
54	HA36	Aug 03, 2018		Soil	M18-Au09814	X		X		X				
55	HA37	Aug 03, 2018		Soil	M18-Au09815	X		X		X				
56	HA38	Aug 03, 2018		Soil	M18-Au09816	X		X		X				
57	HA39	Aug 03, 2018		Soil	M18-Au09817	X		X		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
58	HA40	Aug 03, 2018		Soil	M18-Au09818	X		X		X				
59	HA41	Aug 03, 2018		Soil	M18-Au09819	X		X		X				
60	HA42	Aug 03, 2018		Soil	M18-Au09820	X		X		X				
61	HA43	Aug 03, 2018		Soil	M18-Au09821	X		X		X				
62	HA44	Aug 03, 2018		Soil	M18-Au09822	X		X		X				
63	HA45	Aug 03, 2018		Soil	M18-Au09823	X		X		X				
64	HA46	Aug 03, 2018		Soil	M18-Au09824	X		X		X				
65	HA47	Aug 03, 2018		Soil	M18-Au09825	X		X		X				
66	HA48	Aug 03, 2018		Soil	M18-Au09826	X		X		X				
67	HA49	Aug 03, 2018		Soil	M18-Au09827	X		X		X				
Test Counts						57	1	59	3	56	1	7	1	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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 - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.02			0.02	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Phosphate total (as P)	mg/L	< 0.05			0.05	Pass	
Total Kjeldahl Nitrogen (as N)	mg/L	< 0.2			0.2	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	91			70-130	Pass	
TRH C6-C10	%	116			70-130	Pass	
TRH >C10-C16	%	116			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	111			70-130	Pass	
TRH C10-C14	%	105			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	92			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	89			70-130	Pass	
Acenaphthylene	%	87			70-130	Pass	
Anthracene	%	77			70-130	Pass	
Benz(a)anthracene	%	105			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	114			70-130	Pass	
Benzo(g.h.i)perylene	%	112			70-130	Pass	
Benzo(k)fluoranthene	%	112			70-130	Pass	
Chrysene	%	107			70-130	Pass	
Dibenz(a.h)anthracene	%	113			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	115			70-130	Pass	
Naphthalene	%	82			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	103			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	111			70-130	Pass	
Dimethoate	%	92			70-130	Pass	
Ethion	%	107			70-130	Pass	
Fenitrothion	%	77			70-130	Pass	
Methyl parathion	%	76			70-130	Pass	
Mevinphos	%	89			70-130	Pass	
LCS - % Recovery							
Nitrate & Nitrite (as N)	%	99			70-130	Pass	
Phosphate total (as P)	%	90			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	%	83			70-130	Pass	
LCS - % Recovery							
Heavy Metals							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic			%	98			80-120	Pass	
Cadmium			%	87			80-120	Pass	
Chromium			%	94			80-120	Pass	
Copper			%	94			80-120	Pass	
Lead			%	100			80-120	Pass	
Mercury			%	92			75-125	Pass	
Nickel			%	95			80-120	Pass	
Zinc			%	94			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Au11671	NCP	%	109			70-130	Pass	
Dimethoate	M18-Au11671	NCP	%	82			70-130	Pass	
Ethion	M18-Au11671	NCP	%	110			70-130	Pass	
Fenitrothion	M18-Au11671	NCP	%	90			70-130	Pass	
Methyl parathion	M18-Au11671	NCP	%	83			70-130	Pass	
Mevinphos	M18-Au11671	NCP	%	81			70-130	Pass	
Spike - % Recovery									
				Result 1					
Nitrate & Nitrite (as N)	M18-Au11525	NCP	%	98			70-130	Pass	
Phosphate total (as P)	M18-Au10742	NCP	%	120			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	M18-Au10742	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Au12560	NCP	%	104			75-125	Pass	
Cadmium	M18-Au12560	NCP	%	97			75-125	Pass	
Chromium	M18-Au12560	NCP	%	102			75-125	Pass	
Copper	M18-Au12560	NCP	%	100			75-125	Pass	
Lead	M18-Au12560	NCP	%	106			75-125	Pass	
Mercury	M18-Au12560	NCP	%	101			70-130	Pass	
Nickel	M18-Au12560	NCP	%	101			75-125	Pass	
Zinc	M18-Au12560	NCP	%	102			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M18-Au09762	CP	%	107			70-130	Pass	
4.4'-DDD	M18-Au09762	CP	%	81			70-130	Pass	
4.4'-DDE	M18-Au09762	CP	%	103			70-130	Pass	
4.4'-DDT	M18-Au09762	CP	%	72			70-130	Pass	
a-BHC	M18-Au09762	CP	%	110			70-130	Pass	
Aldrin	M18-Au09762	CP	%	98			70-130	Pass	
b-BHC	M18-Au09762	CP	%	108			70-130	Pass	
d-BHC	M18-Au09762	CP	%	105			70-130	Pass	
Dieldrin	M18-Au09762	CP	%	112			70-130	Pass	
Endosulfan I	M18-Au09762	CP	%	102			70-130	Pass	
Endosulfan II	M18-Au09762	CP	%	105			70-130	Pass	
Endosulfan sulphate	M18-Au09762	CP	%	78			70-130	Pass	
Endrin	M18-Au09762	CP	%	88			70-130	Pass	
Endrin aldehyde	M18-Au09762	CP	%	93			70-130	Pass	
Endrin ketone	M18-Au09762	CP	%	91			70-130	Pass	
g-BHC (Lindane)	M18-Au09762	CP	%	116			70-130	Pass	
Heptachlor	M18-Au09762	CP	%	82			70-130	Pass	
Heptachlor epoxide	M18-Au09762	CP	%	96			70-130	Pass	
Hexachlorobenzene	M18-Au09762	CP	%	117			70-130	Pass	
Methoxychlor	M18-Au09762	CP	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S18-Au09750	NCP	%	80			70-130	Pass	
TRH C6-C10	S18-Au09750	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S18-Au09750	NCP	%	114			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S18-Au09750	NCP	%	105			70-130	Pass	
Toluene	S18-Au09750	NCP	%	93			70-130	Pass	
Ethylbenzene	S18-Au09750	NCP	%	97			70-130	Pass	
m&p-Xylenes	S18-Au09750	NCP	%	96			70-130	Pass	
o-Xylene	S18-Au09750	NCP	%	96			70-130	Pass	
Xylenes - Total	S18-Au09750	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	A18-Au09340	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	A18-Au09340	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M18-Au06689	NCP	%	90			70-130	Pass	
Acenaphthylene	M18-Au06689	NCP	%	90			70-130	Pass	
Anthracene	M18-Au06689	NCP	%	86			70-130	Pass	
Benz(a)anthracene	M18-Au06689	NCP	%	108			70-130	Pass	
Benzo(a)pyrene	M18-Au06689	NCP	%	113			70-130	Pass	
Benzo(b&j)fluoranthene	M18-Au06689	NCP	%	114			70-130	Pass	
Benzo(g.h.i)perylene	M18-Au06689	NCP	%	113			70-130	Pass	
Benzo(k)fluoranthene	M18-Au06689	NCP	%	113			70-130	Pass	
Chrysene	M18-Au06689	NCP	%	107			70-130	Pass	
Dibenz(a.h)anthracene	M18-Au06689	NCP	%	116			70-130	Pass	
Fluoranthene	M18-Au06689	NCP	%	101			70-130	Pass	
Fluorene	M18-Au06689	NCP	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au06689	NCP	%	119			70-130	Pass	
Naphthalene	M18-Au06689	NCP	%	85			70-130	Pass	
Phenanthrene	M18-Au06689	NCP	%	94			70-130	Pass	
Pyrene	M18-Au06689	NCP	%	105			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Au06688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4.4'-DDD	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDE	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDT	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
g-BHC (Lindane)	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M18-Au06688	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos	M18-Au06688	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	M18-Au06688	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	M18-Au06688	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-O	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Phorate	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	M18-Au06688	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	M18-Au06688	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	M18-Au09761	CP	mg/L	9.6	9.5	2.0	30%	Pass	
Phosphate total (as P)	M18-Au10507	NCP	mg/L	0.24	0.26	6.0	30%	Pass	
Total Kjeldahl Nitrogen (as N)	M18-Au09761	CP	mg/L	0.2	1.0	8.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Au12560	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M18-Au12560	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M18-Au12560	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M18-Au12560	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M18-Au12560	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M18-Au12560	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M18-Au12560	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M18-Au12560	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S18-Au09187	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S18-Au09187	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S18-Au09187	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S18-Au09187	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S18-Au09187	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S18-Au09187	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S18-Au09187	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S18-Au09187	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S18-Au09187	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S18-Au10080	NCP	mg/L	1.2	1.2	2.0	30%	Pass	
TRH >C16-C34	S18-Au10080	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S18-Au10080	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S18-Au10080	NCP	mg/L	1.4	1.4	3.0	30%	Pass	
TRH C15-C28	S18-Au10080	NCP	mg/L	0.1	0.1	1.0	30%	Pass	
TRH C29-C36	S18-Au10080	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M18-Au11670	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M18-Au11670	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
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

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Michael Brancati	Senior Analyst-Inorganic (VIC)

Glenn Jackson

National Operations 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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Chain of Custody

■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	**Project Name**	Tweed Valley Hospital PSI
Laboratory Address	1/21 Smallwood Place Murrarie	**Project Number**	J8961
Laboratory Contact Number	3902 4600	**Site Address**	Tweed Valley Hospital
Purchase Order Number	-	**Project Manager**	Blake Skelhorn
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	**Sampler**	BS
Turn Around Time Surcharge	*0 / 100% / 50% / 25%*	**Samplers Phone**	0424319063
Email Report to	matthew.conroy@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Sample Details:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	M8	B1#	B/9A	BTEX C6-C9	B1						Comments:
Paddock 1		14/06/2018	1	Soil	X	X	X								
Paddock 2		14/06/2018	1	Soil	X	X									
Paddock 3		14/06/2018	1	Soil	X	X									
Paddock 4		14/06/2018	1	Soil	X	X	X								
Paddock 5		14/06/2018	1	Soil	X	X									
Paddock 6		14/06/2018	1	Soil	X	X									
QA1		14/06/2018	1	Soil	X	X									
Shed		14/06/2018	1	Soil	X	X			X						
TRIP BLANK		" "	2	water				X							
RINSATE		" "	4	water	X	X			X						
				Page Totals											

Parameters to be Tested:

Comments (i.e. special handling, storage, disposal):

Relinquished by:		Received in good condition by:		Relinquished by:	Received in good condition by:
Company:	Octief	Company:	Eurofins	Company:	Company:
Name:	Blake Skelhorn	Name:	B. Palamisi	Name:	Name:
Date:	14-6-18	Date:	14.6.18	Date:	Date:
Time:	6:10pm	Time:	6:10pm	Time:	Time:
Signature:		Signature:	2.3°C	Signature:	Signature:

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- [x] QLD — Unit 34, 53-57 Link Dr, Yatala, Queensland 4207
- [ ] NT — Unit 12, 16 Charlton Ct, Woolner, Northern Territory 0820
- [ ] ACT / NSW — 17B Capital Tce, Queanbeyan East, New South Wales 2620
- [ ] WA — Unit 1, 153 Belmont Ave, Belmont, Western Australia 6104

Chain of Custody

Receiving Laboratory	Eurofins
Laboratory Address	1/21 Smallwood Place Murrarie
Laboratory Contact Number	3902 4600
Purchase Order Number	-
Turn Around Time (circle)	(Standard) circled · 24hr · 48hr · 72hr · Other:
Turn Around Time Surcharge	100% · 50% · 25%
Email Report to	matthew.conroy@octief.com.au
Email Invoice to	accounts@octief.com.au

Project Name	J8961
Project Number	
Site Address	Cudgen Rd
Project Manager	M. Conroy
Sampler	M. Conroy
Samplers Phone	0491 211 508

Will O'Haire
8/8/16
611312

Sample Details: / **Parameters to be Tested:**

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	B	TRH 6-10 BTEX	Suite M8	B14	B19		Suite B10				Comments:
GW1	water	3/8	6	W			✓	✓	✓						
Intra	"	↓	5	W			✓	✓	✓						
Sed01	Sediment	↓	1	S			✓	✓	✓						
WS01	water	↓	6	W			✓	✓	✓						
WS02	"	↓	6	W			✓	✓	✓						
Sed02	Sediment	↓	1	1			✓	✓	✓						
QC1	N/A	1/8		2		✓					✓				
QC2	↓	1/8		1			✓	✓			✓				
QC3	↓	2/8		1											
QC4	↓	1/8		5			✓	✓							
QC5	↓	2/8		5			✓	✓							
QC6	↓	2/8		1			✓	✓							
QC7	↓	2/8		3											
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Conroy	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature: [signature]	Signature:	Signature:	Signature:

Chain of Custody

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■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	J8961
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	Tweed
Laboratory Contact Number	3902 4600	Site Address	Cudgen Rd
Purchase Order Number	-	Project Manager	M. Conroy
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	Sampler	M. Conroy
Turn Around Time Surcharge	0 / 100% / 50% / 25%	Samplers Phone	0409 211 508
Email Report to	matthew.conroy@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB	8 metals	o/g/d petroleum suite B10	VOC	TPH/BTEX	Nutrients		HAIs		Comments:
QC8	N/A	8/8	1	S		✓	✓							
QC9	↓	↓	5	W		—	—							
QC10	↓	↓	5	W		—	—							
HA1-0.15	Hand Auger	8/8	1	S				✓	✓				✓	
HA1-0.5	↓	↓	↓	↓									✓	
HA1-0.85														
HA2-0.15							✓							
HA2-0.5								✓	✓	✓				
HA2-0.85													✓	
HA3-0.15							✓			✓				
HA4-0.15						✓	✓		✓					
HA4-0.5													✓	
HA4-0.85													✓	
HA5-0.15								✓						
HA5-0.5	↓	↓	↓	↓									✓	
				Page Totals										

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company: Eurofins MGT	Company:	Company:
Name: Matt (Conroy)	Name: George Bland 7.8°C	Name:	Name:
Date: 7/8	Date: 7/8/18	Date:	Date:
Time:	Time: 10:26Am	Time:	Time:
Signature:	Signature:	Signature:	Signature:

Chain of Custody

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■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	
Turn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	
Email Report to	matthew.conroy@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18

611312

Sample Details: / **Parameters to be Tested:**

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB	Suite B10							TPH		Comments:
HA6-0.15	Hand Auge	1/8	1	S		✓							✓		
HA6-0.45	↓	↓	↓	↓									✓		
HA7-0.15													✓		
HA7-0.5						✓									
HA7-0.85													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Conroy	Name:	Name:	Name:
Date: 7/8/18	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

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Chain of Custody

■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	**Project Name**	Tweed Hospital
Laboratory Address	1/21 Smallwood Place Murrarie	**Project Number**	J8961
Laboratory Contact Number	3902 4600	**Site Address**	Cudgen Rd
Purchase Order Number	-	**Project Manager**	Matt Carey
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	**Sampler**	Matt Carey
Turn Around Time Surcharge	*0 100% 50% 25%*	**Samplers Phone**	0491 211 508
Email Report to	matthew.carey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	MS	B14						HOLD		Comments:
HA7F-1	HAND AUGER	2/8	1	Soil									✓		
HA7F-2													✓		
HA7F-3													✓		
HA7F-4													✓		
HA7F						✓	✓								
HA8-1													✓		
HA8-2													✓		
HA8-3													✓		
HA8-4													✓		
HA8						✓	✓								
HA9-1													✓		
HA9-2													✓		
HA9-3													✓		
HA9-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Carey	Name:	Name:	Name:
Date:	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

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Chain of Custody

■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	**Project Name**	
Laboratory Address	1/21 Smallwood Place Murrarie	**Project Number**	J8961
Laboratory Contact Number	3902 4600	**Site Address**	
Purchase Order Number	-	**Project Manager**	
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	**Sampler**	As per previous
Turn Around Time Surcharge	0 100% 50% 25%	**Samplers Phone**	
Email Report to	matthew.carey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Parameters to be Tested:

Will O'Haire 8/8/14

611312

Sample Details:															
Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB		MS	BTU						H+10	Comments:
HAG	Hand Auger	2/8	1	Soil			✓	✓							
HA10-1														✓	
HA10-2														✓	
HA10-3														✓	
HA10-4														✓	
HA10							✓	✓							
HA11-1														✓	
HA11-2														✓	
HA11-3														✓	
HA11-4														✓	
HA11							✓	✓							
HA12-1														✓	
HA12-2														✓	
HA12-3														✓	
HA12-4														✓	
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	**Received in good condition by:**	**Relinquished by:**	**Received in good condition by:**
Company: Octief	Company:	Company:	Company:
Name: Matt Carey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

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Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207

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☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

eceiving Laboratory	Eurofins	Project Name	Tweed
aboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
aboratory Contact Number	3902 4600	Site Address	Cudgen Rd
urchase Order Number	-	Project Manager	M. Corry
urn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Corry
rn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	0491 211 508
mail Report to	Matthew.corry@octief.com.au		
mail Invoice to	accounts@octief.com.au		

Will O'Hair 8/8/18 611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB		1M8	1B14						Hold	Comments:
HA12	Hand Auger	2/8	1	Soil			✓	✓							
HA13-1														✓	
HA13-2														✓	
HA13-3														✓	
HA13-4														✓	
HA13							✓	✓							
HA14-1														✓	
HA14-2														✓	
HA14-3														✓	
HA14-4														✓	
HA14							✓	✓							
HA15-1														✓	
HA15-2														✓	
HA15-3														✓	
HA15-4														✓	
				Page Totals											

omments (i.e. special handling, storage, disposal):

elinquished by:		Received in good condition by:	Relinquished by:	Received in good condition by:
ompany:	Octief	Company:	Company:	Company:
ame:	Matt Corry	Name:	Name:	Name:
ate:	7/8	Date:	Date:	Date:
me:		Time:	Time:	Time:
ignature:		Signature:	Signature:	Signature:

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Chain of Custody

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☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

eceiving Laboratory	Eurofins	Project Name	
aboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
aboratory Contact Number	3902 4600	Site Address	
urchase Order Number	-	Project Manager	
urn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	
rn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	
mail Report to	matthew.carey@octief.com.au		
mail Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/14
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB		NB	BLK						HOLD	Comments:
HA15	Hand Auger	2/x	1	S			✓	✓							
HA16-1														✓	
HA16-2														✓	
HA16-3														✓	
HA16-4														✓	
HA16							✓	✓							
HA17-1														✓	
HA17-2														✓	
HA17-3														✓	
HA17-4														✓	
HA17							✓	✓							
HA18-1														✓	
HA18-2														✓	
HA18-3														✓	
HA18-4														✓	
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:		Received in good condition by:	Relinquished by:	Received in good condition by:
Company:	Octief	Company:	Company:	Company:
Name:	Matt Carey	Name:	Name:	Name:
Date:	7/8	Date:	Date:	Date:
Time:		Time:	Time:	Time:
Signature:		Signature:	Signature:	Signature:

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Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207

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☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	Cudgen Rd
Purchase Order Number	-	Project Manager	M. Corey
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Corey
Turn Around Time Surcharge	*0 100% 50% 25%*	Samplers Phone	0491 211 508
Email Report to	matthew.corey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Parameters to be Tested:

Sample Details:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB		Mg Suite	Suite B14					TPH(C)		Comments:
HA18	Amd Auger	2/8	1	S			✓	✓							
HA19-1													✓		
HA19-2													✓		
HA19-3													✓		
HA19-4													✓		
HA20							✓	✓							
HA20-1													✓		
HA20-2													✓		
HA20-3													✓		
HA20-4													✓		
~~HA21~~ HA19							✓	✓							
HA21-1													✓		
HA21-2													✓		
HA21-3													✓		
HA21-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: M. Corey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

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Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207
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☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620
☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	M. Corry
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Corry
Turn Around Time Surcharge	*0 100% 50% 25%*	Samplers Phone	0491 411508
Email Report to	matthew.corry@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire 8/8/18 611312

Sample Details:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB		Suite M6	Suite B14				HOLD		Comments:
HA21	Hand Auger	2/8	1	Soil			✓	✓						
HA22-1	↓	3/8	↓	↓								✓		
HA22-2		↓										✓		
HA22-3												✓		
HA22-4												✓		
HA22							✓	✓						
HA23-1												✓		
HA23-2												✓		
HA23-3												✓		
HA23-4												✓		
HA23							✓	✓						
HA24-1												✓		
HA24-2												✓		
HA24-3												✓		
HA24-4	↓	↓	↓	↓								✓		
				Page Totals										

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Corry	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

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Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207

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☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

eceiving Laboratory	Eurofins	Project Name	Tweed
aboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
aboratory Contact Number	3902 4600	Site Address	
urchase Order Number	-	Project Manager	M. Conroy
urn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Conroy
rn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	0491 215 508
mail Report to	mather.conroy@octief.com.au		
mail Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611 312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	Surface	Subsoil						Asbestos		Comments:
HA24	Hand Auger	3/8	1	Soil		✓	✓						✓		
HA25-1													✓		
HA25-2													✓		
HA25-3													✓		
HA25-4													✓		
HA25						✓	✓								
HA26-1													✓		
HA26-2													✓		
HA26-3													✓		
HA26-4													✓		
HA26						✓	✓								
HA27-1													✓		
HA27-2													✓		
HA27-3													✓		
HA27-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:		Received in good condition by:	Relinquished by:	Received in good condition by:
Company:	Octief	Company:	Company:	Company:
Name:	Matt Conroy	Name:	Name:	Name:
Date:	7/8	Date:	Date:	Date:
Time:		Time:	Time:	Time:
Signature:		Signature:	Signature:	Signature:

Chain of Custody

OCTIEF

QLD: Unit 34, 53-57 Link Dr, Yatala, Queensland 4207
NT: Unit 12, 16 Charlton Ct, Woolner, Northern Territory 0820
ACT / NSW: 17B Capital Tce, Queanbeyan East, New South Wales 2620
WA: Unit 1, 153 Belmont Ave, Belmont, Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	Sampler	M. Corey
Turn Around Time Surcharge	0 / 100% / 50% / 25%	Samplers Phone	0491 211 508
Email Report to	matthew.corey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire 8/8/18

611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	Suite M8	Suite B14						Hold		Comments:
HA27	Hand Aye	3/8	1	Soil		✓	✓								
HA28-1													✓		
HA28-2													✓		
HA28-3													✓		
HA28-4													✓		
HA28						✓	✓								
HA29-1													✓		
HA29-2													✓		
HA29-3													✓		
HA29-4													✓		
HA29						✓	✓								
HA30-1													✓		
HA30-2													✓		
HA30-3													✓		
HA30-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Corey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

OCTIEF

Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207

☐ NT Unit 12, 16 Charlton Ct Woolner Northern Territory 0820

☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	J8961
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	
Turn Around Time Surcharge	*0 100% 50% 25%*	Samplers Phone	
Email Report to	Matthew.corey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

As per other Will O'Haire sheets 8/8/16 611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB	6 metals	OC/OP pesticides						HM		Comments:
HA30	Hand Auger	3/8	1	S		✓	✓								
HA31-1													✓		
HA31-2													✓		
HA31-3													✓		
HA31-4													✓		
HA31						✓	✓								
HA32-1													✓		
HA32-2													✓		
HA32-3													✓		
HA32-4													✓		
HA32						✓	✓								
HA33-1													✓		
HA33-2													✓		
HA33-3													✓		
HA33-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Corey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

Chain of Custody

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QLD	NT	ACT / NSW	WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	Cudgen Road
Purchase Order Number	-	Project Manager	M. Conroy
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Conroy
Turn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	0491211708
Email Report to	Matthew.conroy@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	OC/OP pesticides	8 metals						Hold		Comments:
HA33	Hand Auger	3/5	1	Soil		✓	✓								
HA34-1													✓		
HA34-2													✓		
HA34-3													✓		
HA34-4													✓		
HA34						✓	✓								
HA35-1													✓		
HA35-2													✓		
HA35-3													✓		
HA35-4													✓		
~~HA35~~ HA35						✓	✓								
HA36-1													✓		
HA36-2													✓		
HA36-3													✓		
HA36-4													✓		
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:		Received in good condition by:	Relinquished by:	Received in good condition by:
Company:	Octief	Company:	Company:	Company:
Name:	Mat Conroy	Name:	Name:	Name:
Date:	7/5	Date:	Date:	Date:
Time:		Time:	Time:	Time:
Signature:		Signature:	Signature:	Signature:

OCTIEF

Chain of Custody

■ QLD Unit 34, 53-57 Link Dr Yatala Queensland 4207

☐ NT Unit 12, 16 Charlton Ct Woolner Northern Territory 0820

☐ ACT / NSW 17B Capital Tce Queanbeyan East New South Wales 2620

☐ WA Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	As per previous
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	
Turn Around Time Surcharge	0 *100%* *50%* *25%*	Samplers Phone	
Email Report to	matthew.carey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/6/18
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	pB	OC/OP pesticides	8 metals							(HOLD)	Comments:
HA36	Hand Auger	3/4	1	Soil		✓	✓								
HA37-1														✓	
HA37-2														✓	
HA37-3														✓	
HA37-4														✓	
HA37						✓	✓								
HA38-1														✓	
HA38-2														✓	
HA38-3														✓	
HA38-4														✓	
HA38						✓	✓								
HA39-1														✓	
HA39-2														✓	
HA39-3														✓	
HA39-4														✓	
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Carey	Name:	Name:	Name:
Date: 7/6	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

OCTIEF

Chain of Custody

■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	J8961
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	As per previous
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	Sampler	
Turn Around Time Surcharge	0 / 100% / 50% / 25%	Samplers Phone	
Email Report to	matthew.corey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Sample Details:					Parameters to be Tested:										
Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pH	4 metals	As/OP pesticides							HM	Comments:
HA39	Hand Auger	3/8	1	Soil		✓	✓							✓	
HA40-1														✓	
HA40-2														✓	
HA40-3														✓	
HA40-4														✓	
HA40						✓	✓								
HA41-1														✓	
HA41-2														✓	
HA41-3														✓	
HA41-4														✓	
HA41						✓	✓								
HA42-1														✓	
HA42-2														✓	
HA42-3														✓	
HA42-4														✓	
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Corey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

OCTIEF

Chain of Custody

■ QLD
Unit 34, 53-57 Link Dr
Yatala
Queensland 4207

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Woolner
Northern Territory 0820

☐ ACT / NSW
17B Capital Tce
Queanbeyan East
New South Wales 2620

☐ WA
Unit 1, 153 Belmont Ave
Belmont
Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J5961
Laboratory Contact Number	3902 4600	Site Address	Cudgen Rd
Purchase Order Number	-	Project Manager	M. Corey
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	Sampler	M. Corey
Turn Around Time Surcharge	0 / 100% / 50% / 25%	Samplers Phone	0491 211 508
Email Report to	matthew.corey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	8 metals	a/o/ perhaps						Hold	Comments:
HA42	Hand Auger	3/8	1	Soil		✓	✓							
HA43-1													✓	
HA43-2													✓	
HA43-3													✓	
HA43-4													✓	
HA43						✓	✓							
HA44-1													✓	
HA44-2													✓	
HA44-3													✓	
HA44-4													✓	
HA44						✓	✓							
HA45-1													✓	
HA45-2													✓	
HA45-3													✓	
HA45-4													✓	
				Page Totals										

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Corey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

OCTIEF

Chain of Custody

■ QLD
Unit 34, 53-57 Link Dr
Yatala
Queensland 4207

☐ NT
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Woolner
Northern Territory 0820

☐ ACT / NSW
17B Capital Tce
Queanbeyan East
New South Wales 2620

☐ WA
Unit 1, 153 Belmont Ave
Belmont
Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	
Purchase Order Number	-	Project Manager	As per previously
Turn Around Time (circle)	Standard / 24hr / 48hr / 72hr / Other:	Sampler	
Turn Around Time Surcharge	0 / 100% / 50% / 25%	Samplers Phone	
Email Report to	matthew.carey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/5/14
611312

Sample Details:

Parameters to be Tested:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix (A-Air, W-Water, S-Soil)	pB	6 metals	OC/OP pesticides							HOLD	Comments:
HAU5	Head Age	3/8	1	Soil		✓	✓								
HAU6-T														✓	
HAU6-2														✓	
HAU6-3														✓	
HAU6-4														✓	
HAU6						✓	✓								
HAU7-1														✓	
HAU7-2														✓	
HAU7-3														✓	
HAU7-4														✓	
HAU7						✓	✓								
HAU8-1														✓	
HAU8-2														✓	
HAU8-3														✓	
HAU8-4														✓	
				Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Carey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

Chain of Custody

OCTIEF

QLD	NT	ACT / NSW	WA
Unit 34, 53-57 Link Dr Yatala Queensland 4207	Unit 12, 16 Charlton Ct Woolner Northern Territory 0820	17B Capital Tce Queanbeyan East New South Wales 2620	Unit 1, 153 Belmont Ave Belmont Western Australia 6104

Receiving Laboratory	Eurofins	Project Name	Tweed
Laboratory Address	1/21 Smallwood Place Murrarie	Project Number	J8961
Laboratory Contact Number	3902 4600	Site Address	Cudgen Rd
Purchase Order Number	-	Project Manager	M. Carey
Turn Around Time (circle)	Standard 24hr 48hr 72hr Other:	Sampler	M. Carey
Turn Around Time Surcharge	0 100% 50% 25%	Samplers Phone	0491 214508
Email Report to	matthew.carey@octief.com.au		
Email Invoice to	accounts@octief.com.au		

Will O'Haire
8/8/18
611312

Sample Details:

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil
HAU8	Hand Auger	3/8	1	Soil
HAU9-1				
HAU9-2				
HAU9-3				
HAU9-4				
HAU9				
HA 22-0.5				
HA 26-0.5				
HA 28-0.5				
HA 31-0.4				
HA 36-0.5				
HA 38-0.4				
HA 42-0.5				

Parameters to be Tested:

pB	8 metals	ac/op pesticides								Hold	Comments:
	✓	✓								✓	
										✓	
										✓	
										✓	
										✓	
	✓	✓								✓	
										✓	
										✓	
										✓	
										✓	
										✓	
										✓	
										✓	
										✓	
Page Totals											

Comments (i.e. special handling, storage, disposal):

Relinquished by:	Received in good condition by:	Relinquished by:	Received in good condition by:
Company: Octief	Company:	Company:	Company:
Name: Matt Carey	Name:	Name:	Name:
Date: 7/8	Date:	Date:	Date:
Time:	Time:	Time:	Time:
Signature:	Signature:	Signature:	Signature:

Main Laboratory: Unit 34 53-57 Link Drive, Yatala QLD 4207
Enquiries: 1800 628 433
www.octief.com.au

Asbestos Bulk Sample Analysis Report
Certificate No CER1808151300

Client:	TSA	**Sampled By:**	Matthew Conroy
Client Contact:	Matthew Conroy	**# of Samples Submitted:**	1
Telephone:	04911211508	**Sampling Date:**	-
Email:	matthew.conroy@octief.com.au	**Date Received:**	13/08/2018
Project:	J8961	**Identification Date:**	13/08/2018
Site Location:	771 Cudgen Road	**Issue Date:**	15/08/2018

Test Methodology: Polarized light microscopy examination including dispersion staining techniques for the presence of asbestos in accordance with the methodology outlined in the In-House Procedure QP-930-001 which is based on Australian Standard (AS4964-2004)

Sample ID	Sample Location	Sample Description	Approximate Size or Weight	Asbestos Detected (Yes/No)	Fibre Types Detected
S01	Asbestos 1 - ACM	Fibre cement sheeting	80x80x5mm	Yes	CHR-CRO

Detection limit (AS 4964) – 0.1 g/kg
The NATA Accreditation does not cover the sampling performance

Approved Identifier: Maulika Amin

Report Approved By: Maulika Amin

Fibre Types

CHR	*Chrysotile (white asbestos) fibres detected*	*ORG*	*Organic fibres detected*
AMO	*Amosite (brown / grey asbestos) fibres detected*	*SMF*	*Synthetic mineral fibres detected*
CRO	*Crocidolite (blue asbestos) fibres detected*	*UMF*	*Unidentified mineral fibres detected*
NFD	*No fibres detected*	*NAD*	*No Asbestos Detected*

Notes: *Hand-picked refers to small discrete amounts of asbestos distributed unevenly in a large body of non-asbestos material.*
Due to their nature, confirmation using another independent analytical technique is recommended if no asbestos is detected in samples of vinyl tiles, bituminous materials, mastics, adhesives, paints, sealants, resins or ore.
The results contained within this report relate only to the sample(s) submitted for analysis and OCTIEF accepts no responsibility for the collection, packaging and transportation of sample submitted by external parties. Sample descriptions, sizes and weights are approximate only.

Main Laboratory: Unit 34 53-57 Link Drive, Yatala QLD 4207
Enquiries: 1800 628 433
www.octief.com.au

Asbestos Soil Sample Analysis Report
Certificate No WA1808151239

Client:	TSA	**Sampled By:**	Matthew Conroy
Client Contact:	Matthew Conroy	**# of Samples Submitted:**	4
Telephone:	04911211508	**Sampling Date:**	13/08/2018
Email:	matthew.conroy@octief.com.au	**Date Received:**	13/08/2018
Project:	J8961	**Identification Date:**	15/08/2018
Site Location:	771 Cudgen Road	**Issue Date:**	20/08/2018

Test Methodology: OCTIEF laboratory procedures and methods used for the identification and quantification of asbestos in soils are consistent with AS4964-2004 and the requirements of the NEPM 2013 Assessment of Site Contamination, and in accordance with In-House Procedures QP-930-001 and QP-931-001.

Acronyms

CHR	*Chrysotile (white asbestos) fibres detected*	*ORG*	*Organic fibres detected*
AMO	*Amosite (brown / grey asbestos) fibres detected*	*SMF*	*Synthetic mineral fibres detected*
CRO	*Crocidolite (blue asbestos) fibres detected*	*UMF*	*Unidentified mineral fibres detected*
ACM	*Asbestos containing material*	*NAD*	*No Asbestos Detected*
AF	*Asbestos fines*	*FA*	*Fibrous asbestos*

Notes

Detection limit (AS 4964) – 0.1 g/kg. LOR for asbestos quantification for AF and FA (NEPM) is 0.001% (Non NATA)

The results contained within this report relate only to the sample(s) submitted for analysis and OCTIEF accepts no responsibility for the collection, packaging and transportation of sample submitted by external parties. Sample descriptions, sizes and weights are approximate only. NATA does not accredit sampling.

Asbestos weights and percentages are not covered under the Scope of NATA Accreditation therefore 'NATA accreditation does not cover the performance of this service'. Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present). Percentages for Asbestos content in ACM and soil density are based on the NEPM 2013 default values. All numerical results under this method are approximate and should be used as a guide only.

Trace Asbestos Detected means the results can be interpreted as containing detectable 'respirable' asbestos fibres as per AS 4964 (LOR 5 fibres).

Main Laboratory: Unit 34 53-57 Link Drive, Yatala QLD 4207
Enquiries: 1800 628 433
www.octief.com.au

Table 1 - Results of sample examination using polarised light microscopy (PLM) including Dispersion Staining

Qualitative Results (NATA)							Quantitative Results (non NATA)					
AS 4964 – 2004 Identification of Asbestos in Bulk Samples							National Environment Protection (Assessment of Site Contamination) Measure (2013)					
								AF / FA (2 - 7mm)		AF / FA (<2mm)		
Sample ID	Sample Location	Sample Description	Approx. Sample Weight (dry) (g)	Asbestos Detected	Fibre Type Detected	Trace Asbestos Detected	Approx. Sample Weight (dry) (kg)	Weight of AF/FA (g)	AF/FA (as 100% Asbestos in AF/FA) (%)	Sub-sample Weight (g)	Weight of AF/FA (g)	AF / FA (as 100% asbestos in AF/FA) (%)
HA 1 - 0 - 0.1	-	Soil	530	Yes	CHR-ORG	No	0.53	0.111	0.021	102.00	0.0100	0.010
HA 2 - 0 - 0.1	-	Soil	402	No	NAD-ORG	No	0.402	0.000	<0.001	105.00	0.0000	<0.001
HA 7 - 0 - 0.1	-	Soil	254	No	NAD-ORG	No	0.254	0.000	<0.001	102.00	0.0000	<0.001
HA 4 - 0 - 0.1	-	Soil	322	No	NAD-ORG	No	0.322	0.000	<0.001	100.00	0.0000	<0.001

Approved Identifier: Maulika Amin

Report Approved By: Rhys Flack

Notes

Detection limit (AS 4964) – 0.1 g/kg. LOR for asbestos quantification for AF and FA (NEPM) is 0.001% (Non NATA)

The results contained within this report relate only to the sample(s) submitted for analysis and OCTIEF accepts no responsibility for the collection, packaging and transportation of sample submitted by external parties. Sample descriptions, sizes and weights are approximate only. NATA does not accredit sampling.

Asbestos weights and percentages are not covered under the Scope of NATA Accreditation therefore 'NATA accreditation does not cover the performance of this service'. Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present). Percentages for Asbestos content in ACM and soil density are based on the NEPM 2013 default values. All numerical results under this method are approximate and should be used as a guide only.

Trace Asbestos Detected means the results can be interpreted as containing detectable 'respirable' asbestos fibres as per AS 4964 (LOR 5 fibres).

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calculations and/or measurements included in this document are traceable to Australian/National standards.
NATA accreditation number: 15172

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB1819257**	Page	: 1 of 7
Client	: **OCTIEF PTY LIMITED**	Laboratory	: Environmental Division Brisbane
Contact	: MATTHEW CONROY	Contact	: Customer Services EB
Address	: UNIT34 53-57 LINK AVE YATALA QLD 4207	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61-7-3243 7222
Project	: J8961 Tweed	Date Samples Received	: 08-Aug-2018 13:55
Order number	:	Date Analysis Commenced	: 09-Aug-2018
C-O-C number	: ----	Issue Date	: 13-Aug-2018 15:19
Sampler	: MATTHEW CONROY		
Site	: Cudgen Rd		
Quote number	: EN/222/17		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Senior Organic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- EP068: Matrix spike shows low recovery for profiothos due to primary sample matrix interference.
- EG005T (Total Metals by ICP-AES): Sample EB1819257-002 (QC6A) shows poor spike recovery due to sample heterogeneity. Confirmed by visual inspection.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC3A	QC6A	QC8A	----	----
			Client sampling date / time	02-Aug-2018 00:00	02-Aug-2018 00:00	03-Aug-2018 00:00	----	----
Compound	CAS Number	LOR	Unit	EB1819257-001	EB1819257-002	EB1819257-003	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**34.7**	**22.7**	**33.2**	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**7**	**6**	**6**	----	----
Cadmium	7440-43-9	1	mg/kg	**2**	**2**	**1**	----	----
Chromium	7440-47-3	2	mg/kg	**16**	**11**	**10**	----	----
Copper	7440-50-8	5	mg/kg	**92**	**29**	**74**	----	----
Lead	7439-92-1	5	mg/kg	**13**	**9**	**9**	----	----
Nickel	7440-02-0	2	mg/kg	**12**	**10**	**12**	----	----
Zinc	7440-66-6	5	mg/kg	**126**	**88**	**116**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	**0.2**	**0.2**	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	**0.08**	**0.13**	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC3A	QC6A	QC8A	----	----
				Client sampling date / time	02-Aug-2018 00:00	02-Aug-2018 00:00	03-Aug-2018 00:00	----	----
Compound	CAS Number	LOR	Unit		EB1819257-001	EB1819257-002	EB1819257-003	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		**0.08**	**0.13**	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**98.7**	**83.7**	**109**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**102**	**82.0**	**112**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Inter	QC11	----	----	----
				Client sampling date / time	03-Aug-2018 00:00	03-Aug-2018 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB1819257-004	EB1819257-005	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.001**	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.001**	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.018**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	<2.0	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	<2.0	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	<0.5	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Inter	QC11	----	----	----
				Client sampling date / time	03-Aug-2018 00:00	03-Aug-2018 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EB1819257-004	EB1819257-005	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	<2.0	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	<2.0	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	<2.0	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**71.4**	**79.8**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**80.4**	**77.0**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	135

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	40	134
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	42	143

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB1819257**	Page	: 1 of 9
Client	: **OCTIEF PTY LIMITED**	Laboratory	: Environmental Division Brisbane
Contact	: MATTHEW CONROY	Contact	: Customer Services EB
Address	: UNIT34 53-57 LINK AVE YATALA QLD 4207	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61-7-3243 7222
Project	: J8961 Tweed	Date Samples Received	: 08-Aug-2018
Order number	:	Date Analysis Commenced	: 09-Aug-2018
C-O-C number	: ----	Issue Date	: 13-Aug-2018
Sampler	: MATTHEW CONROY		
Site	: Cudgen Rd		
Quote number	: EN/222/17		
No. of samples received	: 5		
No. of samples analysed	: 5		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Senior Organic Chemist	Brisbane Inorganics, Stafford, QLD
Matt Frost	Senior Organic Chemist	Brisbane Organics, Stafford, QLD

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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

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	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1861322)									
EB1819257-001	QC3A	EA055: Moisture Content	----	0.1	%	34.7	33.4	3.93	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1861315)									
EB1819257-001	QC3A	EG005T: Cadmium	7440-43-9	1	mg/kg	2	1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	14	15.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	12	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	92	88	4.22	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	13	12	8.48	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	126	119	4.93	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1861316)									
EB1819257-001	QC3A	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1861317)									
EB1819257-001	QC3A	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1861317) - continued									
EB1819257-001	QC3A	EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	0.08	<0.05	50.3	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	0.08	<0.05	46.2	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1861317)									
EB1819257-001	QC3A	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1862105)									
EB1819120-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 1862105) - continued									
EB1819120-002	Anonymous	EG020A-T: Copper	7440-50-8	0.001	mg/L	0.040	0.041	0.00	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.001	0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.038	0.039	0.00	No Limit
ET1802024-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0006	0.0005	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.008	0.008	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.013	0.012	0.00	0% - 50%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.039	0.039	0.00	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.034	0.035	3.34	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.022	0.020	10.2	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.465	0.449	3.46	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1862127)									
EB1819120-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EB1819243-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (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 Spike (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**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1861315)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	106 mg/kg	105	84	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.4 mg/kg	98.0	88	117
EG005T: Chromium	7440-47-3	2	mg/kg	<2	16.5 mg/kg	107	83	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	50.6 mg/kg	108	86	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	64.4 mg/kg	104	84	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	13.3 mg/kg	106	89	126
EG005T: Zinc	7440-66-6	5	mg/kg	<5	151 mg/kg	115	87	127
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1861316)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.09821 mg/kg	93.5	78	122
EP068A: Organochlorine Pesticides (OC) (QCLot: 1861317)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	108	54	121
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	54	112
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	49	121
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	55	129
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	61	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	130
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	70	130
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	106	58	118
EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	106	56	119
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	109	51	125
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	57	118
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	67	129
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.9	62	121
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	110	60	137
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	78.5	61	122
EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	60	123
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	101	52	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	111	55	125
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	105	80	142
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	110	55	129
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	99.6	53	136

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1861317) - continued								
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1861317)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	109	41	114
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	116	25	120
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	107	35	135
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	110	44	131
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	108	70	131
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	106	70	130
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	95.7	60	122
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	64	125
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	113	69	115
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	108	66	120
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	99.2	57	118
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	115	70	130
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	62	127
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	102	80	130
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	55	106
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	104	80	134
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	61	123
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	102	57	124
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	35	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1862105)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	106	88	112
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.5	88	111
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	108	89	115
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.2 mg/L	107	88	116
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	105	89	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	103	88	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.2 mg/L	99.9	84	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1862127)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	90.6	84	118
EP068A: Organochlorine Pesticides (OC) (QCLot: 1863488)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1863488) - continued								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	80.0	45	125
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	78.7	41	121
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	76.7	39	122
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	77.1	42	119
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	74.1	53	112
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	77.5	45	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	77.4	52	123
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	73.3	52	124
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	73.8	48	125
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	72.9	54	128
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	76.3	51	125
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	80.9	50	124
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	81.7	56	122
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	80.5	47	129
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	71.7	50	126
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	70.8	52	124
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	68.0	49	131
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	77.8	37	124
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	79.0	35	131
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	80.0	45	129
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	79.4	32	135
EP068: Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1863488)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	80.6	49	115
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	88.3	44	118
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	# 7.16	16	49
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	79.8	41	111
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	79.6	44	129
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	78.4	50	118
EP068: Parathion-methyl	298-00-0	----	µg/L	----	5 µg/L	81.6	50	118
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	82.3	51	122
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	80.3	49	121
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	75.5	54	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	75.9	43	123
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	79.9	52	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1863488) - continued								
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	71.1	50	127
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	76.5	52	124
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	66.4	43	121
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	74.7	53	126
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	75.4	50	127
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	76.5	48	128
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	76.8	44	130

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**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005T: Total Metals by ICP-AES (QCLot: 1861315)							
EB1819257-002	QC6A	EG005T: Arsenic	7440-38-2	50 mg/kg	# 56.0	70	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	83.4	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	86.0	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	98.9	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	86.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	87.6	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	70.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1861316)							
EB1819257-002	QC6A	EG035T: Mercury	7439-97-6	5 mg/kg	96.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1861317)							
EB1819257-002	QC6A	EP068: gamma-BHC	58-89-9	0.5 mg/kg	107	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	99.6	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	102	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	94.3	70	130
		EP068: Endrin	72-20-8	0.5 mg/kg	108	70	130
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	108	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1861317)							
EB1819257-002	QC6A	EP068: Diazinon	333-41-5	0.5 mg/kg	115	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	106	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	112	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	105	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	102	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG020T: Total Metals by ICP-MS (QCLot: 1862105)							
EB1819002-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	100	70	130
		EG020A-T: Cadmium	7440-43-9	0.5 mg/L	98.5	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	101	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	100	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	106	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	95.8	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	97.7	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1862127)							
EB1819002-002	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	120	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1863488)							
EB1819257-005	QC11	EP068: gamma-BHC	58-89-9	20 µg/L	92.7	70	130
		EP068: Heptachlor	76-44-8	20 µg/L	88.5	70	130
		EP068: Aldrin	309-00-2	20 µg/L	82.9	70	130
		EP068: Dieldrin	60-57-1	20 µg/L	82.0	70	130
		EP068: Endrin	72-20-8	20 µg/L	78.8	70	130
		EP068: 4.4`-DDT	50-29-3	20 µg/L	95.3	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1863488)							
EB1819257-005	QC11	EP068: Diazinon	333-41-5	10 µg/L	89.0	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	10 µg/L	82.9	70	130
		EP068: Pirimphos-ethyl	23505-41-1	10 µg/L	72.8	70	130
		EP068: Bromophos-ethyl	4824-78-6	10 µg/L	78.9	70	130
		EP068: Prothiofos	34643-46-4	10 µg/L	# 67.5	70	130

OCTIEF

Chain of Custody

■ QLD	☐ NT	☐ ACT / NSW	☐ WA
Unit 34, 53-57 Link Dr	Unit 12, 16 Charlton Ct	17B Capital Tce	Unit 1, 153 Belmont Ave
Yatala	Woolner	Queanbeyan East	Belmont
Queensland 4207	Northern Territory 0820	New South Wales 2620	Western Australia 6104

Receiving Laboratory	ALS	**Project Name**	Tweed
Laboratory Address	2 Blyth Street, Stafford 4053	**Project Number**	J8961
Laboratory Contact Number	3243 7222	**Site Address**	Cudgen Rd
Purchase Order Number		**Project Manager**	Matt Conroy
Turn Around Time (circle)	(Standard) 24hr 48hr 72hr Other:	**Sampler**	Matt Conroy
Turn Around Time Surcharge	0 100% 50% 25%	**Samplers Phone**	0491 211 508
Email Report to	accounts@octief.com.au		
Email Invoice to	[redacted] matthew.conroy@octief.com.au		

Sample Details: **Parameters to be Tested:**

Sample ID	Sample Description:	Date Sampled	No. Sample bottles	Sample Matrix A-Air, W-Water, S-Soil	OC/OP pesticides	8 Metals	Comments:
QC3A	Soil	2/8	1	S	—	—	
QC6A	↓	2/8	1	S	—	—	
QC8A	↓	3/8	1	S	—	—	
Inlet	Water	3/8	4	W	—	—	
QC11	Water	3/8	3	W	—	—	

Page Totals

Environmental Division
Brisbane
Work Order Reference
EB1819257

Telephone : +61-7-3243 7222

Comments (i.e. special handling, storage, disposal):

Relinquished by:	**Received in good condition by:**	**Relinquished by:**	**Received in good condition by:**
Company: OCTIEF	Company: ALS	Company:	Company:
Name: Matt Conroy	Name: JETHRO H	Name:	Name:
Date: 7/8	Date: 8/8/18	Date:	Date:
Time: 4:00pm	Time: 13:55	Time:	Time:
Signature:	Signature:	Signature:	Signature:

eurofins | mgt

30 years Testing For Life 1987–2017
Celebrating 30 years Testing and Protecting Human Health

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Matthew Conroy**

Report **611916-S**
Project name TWEED HOSPITAL CUDGER RD
Project ID J8961
Received Date Aug 13, 2018

Client Sample ID			**HA1-0.15**	**HA1-0.5**	**HA8-1**	**HA20-1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au14538**	**M18-Au14539**	**M18-Au14540**	**M18-Au14541**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit				
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	21	14	28	29
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	5.8	8.2	8.1	7.8
% Moisture	1	%	19	27	30	19
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	5.9	5.8	15	12

Client Sample ID			**HA30-1**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**M18-Au14542**
Date Sampled			**Aug 03, 2018**
Test/Reference	LOR	Unit	
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	61
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.7
% Moisture	1	%	17
Cation Exchange Capacity			
Cation Exchange Capacity	0.05	meq/100g	7.4

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Aug 14, 2018	180 Days
- Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)			
pH (1:5 Aqueous extract at 25°C as rec.)	Melbourne	Aug 13, 2018	7 Day
- Method: LTM-GEN-7090 pH in soil by ISE			
% Moisture	Melbourne	Aug 13, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

ABN– 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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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
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGER RD
Project ID: J8961

Order No.:
Report #: 611916
Phone: 07 5500 2800
Fax:

Received: Aug 13, 2018 9:42 AM
Due: Aug 14, 2018
Priority: 1 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						pH (1:5 Aqueous extract at 25°C as rec.)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	HA1-0.15	Aug 03, 2018		Soil	M18-Au14538	X	X	X
2	HA1-0.5	Aug 03, 2018		Soil	M18-Au14539	X	X	X
3	HA8-1	Aug 03, 2018		Soil	M18-Au14540	X	X	X
4	HA20-1	Aug 03, 2018		Soil	M18-Au14541	X	X	X
5	HA30-1	Aug 03, 2018		Soil	M18-Au14542	X	X	X
Test Counts						5	5	5

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	M18-Au14538	CP	uS/cm	21	23	10.0	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	M18-Au14538	CP	pH Units	5.8	5.7	pass	30%	Pass	
% Moisture	M18-Au14747	NCP	%	11	11	4.0	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

Authorised By

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Michael Brancati	Senior Analyst-Inorganic (VIC)

Glenn Jackson
National Operations 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.

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Matthew Conroy**

Report **613591-S**
Project name TWEED HOSPITAL CUDGEN RD
Project ID J8961
Received Date Aug 22, 2018

Client Sample ID			**HA2-0.15M**	**HA4-0.5M**	**HA17-1**	**HA17-2**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au28026**	**M18-Au28027**	**M18-Au28028**	**M18-Au28029**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.1	5.1	-	-
Cadmium	0.4	mg/kg	0.5	< 0.4	-	-
Chromium	5	mg/kg	29	30	-	-
Copper	5	mg/kg	88	16	-	-
Lead	5	mg/kg	63	13	-	-
Mercury	0.1	mg/kg	0.4	0.2	-	-
Nickel	5	mg/kg	20	18	-	-
Zinc	5	mg/kg	270	120	200	210
% Moisture	1	%	24	35	23	21

Client Sample ID			**HA17-3**	**HA17-4**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au28030**	**M18-Au28031**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit		
Heavy Metals				
Zinc	5	mg/kg	230	210
% Moisture	1	%	20	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Metals M8	Melbourne	Aug 23, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Melbourne	Aug 23, 2018	180 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Aug 23, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

ABN– 50 005 085 521
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NATA # 1261 Site # 18217

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Murarrie QLD 4172
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NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGEN RD
Project ID: J8961

Order No.:
Report #: 613591
Phone: 07 5500 2800
Fax:

Received: Aug 22, 2018 2:44 PM
Due: Aug 24, 2018
Priority: 2 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Zinc	Metals M8	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	HA2-0.15M	Aug 03, 2018		Soil	M18-Au28026		X	X
2	HA4-0.5M	Aug 03, 2018		Soil	M18-Au28027		X	X
3	HA17-1	Aug 03, 2018		Soil	M18-Au28028	X		X
4	HA17-2	Aug 03, 2018		Soil	M18-Au28029	X		X
5	HA17-3	Aug 03, 2018		Soil	M18-Au28030	X		X
6	HA17-4	Aug 03, 2018		Soil	M18-Au28031	X		X
Test Counts						4	2	6

Internal Quality Control Review and Glossary

General

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2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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/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	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	109			80-120	Pass	
Cadmium	%	100			80-120	Pass	
Chromium	%	119			80-120	Pass	
Copper	%	115			80-120	Pass	
Lead	%	106			80-120	Pass	
Mercury	%	99			75-125	Pass	
Nickel	%	113			80-120	Pass	
Zinc	%	112			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S18-Au27427	NCP	%	101			75-125	Pass	
Cadmium	S18-Au27427	NCP	%	95			75-125	Pass	
Chromium	S18-Au27427	NCP	%	111			75-125	Pass	
Copper	S18-Au27427	NCP	%	100			75-125	Pass	
Lead	S18-Au27427	NCP	%	94			75-125	Pass	
Mercury	S18-Au27427	NCP	%	100			70-130	Pass	
Nickel	S18-Au27427	NCP	%	107			75-125	Pass	
Zinc	S18-Au27427	NCP	%	97			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	M18-Au28026	CP	mg/kg	7.1	6.5	8.0	30%	Pass	
Cadmium	M18-Au28026	CP	mg/kg	0.5	0.5	10	30%	Pass	
Chromium	M18-Au28026	CP	mg/kg	29	28	5.0	30%	Pass	
Copper	M18-Au28026	CP	mg/kg	88	78	12	30%	Pass	
Lead	M18-Au28026	CP	mg/kg	63	61	3.0	30%	Pass	
Mercury	M18-Au28026	CP	mg/kg	0.4	0.4	20	30%	Pass	
Nickel	M18-Au28026	CP	mg/kg	20	19	1.0	30%	Pass	
Zinc	M18-Au28026	CP	mg/kg	270	270	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au28026	CP	%	24	22	9.0	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

Authorised By

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)

Glenn Jackson
National Operations 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.

Enviro Sample Vic

From: Ryan Gilbert
Sent: Wednesday, 22 August 2018 2:44 PM
To: Enviro Sample Vic
Subject: FW: Eurofins | mgt Test Results - Report 611312 : Site TWEED HOSPITAL CUDGEN RD (J8961)
Attachments: image001.jpg; image002.png; image003.jpg; image004.jpg; image005.jpg

Importance: High

Hi All,

Can we please process the below request for additional analysis on a 48hr TAT.

Kind Regards

Ryan Gilbert
Phone : +61 7 3902 4610
Mobile: +61 499 404 007
Email : RyanGilbert@Eurofins.com

From: Matthew Conroy [mailto:Matthew.Conroy@octief.com.au]
Sent: Wednesday, 22 August 2018 2:24 PM
To: Ryan Gilbert
Subject: RE: Eurofins | mgt Test Results - Report 611312 : Site TWEED HOSPITAL CUDGEN RD (J8961)

EXTERNAL EMAIL*

0538

Hi Ryan ,

Can I please get the following additional analysis undertaken on samples from this batch on 48 hr TAT

Au09778 HA2 – 0.15m - Suite M8 — G401
Au09831 HA4 – 0.5m – Suite M8
Au09877 HA17-1 – zinc
Au09878 HA17-2 – zinc
Au09879 HA17-3 - zinc
Au09880 HA17-4 – zinc

} Hold.

22/8 2:44p

G13591

Thanks

Matthew Conroy
Principal Environmental Scientist

OCTIEF

M: +61 491 211 508
P: 1800 628 433
E: matthew.conroy@octief.com.au
W: www.octief.com.au
Follow us on LinkedIn

QLD
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Yatala
Queensland 4207

NT
Unit 12, 16 Charlton Ct
Woolner
Northern Territory 0820

ACT / NSW
17B Capital Tce
Queanbeyan East
New South Wales 2620

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Matthew Conroy**

Report **613591-S**
Project name TWEED HOSPITAL CUDGEN RD
Project ID J8961
Received Date Aug 22, 2018

Client Sample ID			**HA2-0.15M**	**HA4-0.5M**	**HA17-1**	**HA17-2**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au28026**	**M18-Au28027**	**M18-Au28028**	**M18-Au28029**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.1	5.1	-	-
Cadmium	0.4	mg/kg	0.5	< 0.4	-	-
Chromium	5	mg/kg	29	30	-	-
Copper	5	mg/kg	88	16	-	-
Lead	5	mg/kg	63	13	-	-
Mercury	0.1	mg/kg	0.4	0.2	-	-
Nickel	5	mg/kg	20	18	-	-
Zinc	5	mg/kg	270	120	200	210
% Moisture	1	%	24	35	23	21

Client Sample ID			**HA17-3**	**HA17-4**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Au28030**	**M18-Au28031**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit		
Heavy Metals				
Zinc	5	mg/kg	230	210
% Moisture	1	%	20	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Metals M8	Melbourne	Aug 23, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Melbourne	Aug 23, 2018	180 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Aug 23, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

ABN– 50 005 085 521
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web : www.eurofins.com.au

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NATA # 1261
Site # 1254 & 14271

Sydney
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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
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGEN RD
Project ID: J8961

Order No.:
Report #: 613591
Phone: 07 5500 2800
Fax:

Received: Aug 22, 2018 2:44 PM
Due: Aug 24, 2018
Priority: 2 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Zinc	Metals M8	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	HA2-0.15M	Aug 03, 2018		Soil	M18-Au28026		X	X
2	HA4-0.5M	Aug 03, 2018		Soil	M18-Au28027		X	X
3	HA17-1	Aug 03, 2018		Soil	M18-Au28028	X		X
4	HA17-2	Aug 03, 2018		Soil	M18-Au28029	X		X
5	HA17-3	Aug 03, 2018		Soil	M18-Au28030	X		X
6	HA17-4	Aug 03, 2018		Soil	M18-Au28031	X		X
Test Counts						4	2	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil 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. 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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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/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	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	109			80-120	Pass	
Cadmium	%	100			80-120	Pass	
Chromium	%	119			80-120	Pass	
Copper	%	115			80-120	Pass	
Lead	%	106			80-120	Pass	
Mercury	%	99			75-125	Pass	
Nickel	%	113			80-120	Pass	
Zinc	%	112			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S18-Au27427	NCP	%	101			75-125	Pass	
Cadmium	S18-Au27427	NCP	%	95			75-125	Pass	
Chromium	S18-Au27427	NCP	%	111			75-125	Pass	
Copper	S18-Au27427	NCP	%	100			75-125	Pass	
Lead	S18-Au27427	NCP	%	94			75-125	Pass	
Mercury	S18-Au27427	NCP	%	100			70-130	Pass	
Nickel	S18-Au27427	NCP	%	107			75-125	Pass	
Zinc	S18-Au27427	NCP	%	97			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	M18-Au28026	CP	mg/kg	7.1	6.5	8.0	30%	Pass	
Cadmium	M18-Au28026	CP	mg/kg	0.5	0.5	10	30%	Pass	
Chromium	M18-Au28026	CP	mg/kg	29	28	5.0	30%	Pass	
Copper	M18-Au28026	CP	mg/kg	88	78	12	30%	Pass	
Lead	M18-Au28026	CP	mg/kg	63	61	3.0	30%	Pass	
Mercury	M18-Au28026	CP	mg/kg	0.4	0.4	20	30%	Pass	
Nickel	M18-Au28026	CP	mg/kg	20	19	1.0	30%	Pass	
Zinc	M18-Au28026	CP	mg/kg	270	270	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Au28026	CP	%	24	22	9.0	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

Authorised By

Ryan Gilbert	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)

Glenn Jackson
National Operations 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.

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
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Site # 1254 & 14271

Sydney
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NATA # 1261 Site # 18217

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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**OCTIEF Pty Ltd**
Contact name:	Matthew Conroy
Project name:	TWEED HOSPITAL CUDGEN RD
Project ID:	J8961
COC number:	Not provided
Turn around time:	2 Day
Date/Time received:	Aug 22, 2018 2:44 PM
Eurofins | mgt reference:	**613591**

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.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Ryan Gilbert on Phone : or by e.mail: RyanGilbert@eurofins.com

Results will be delivered electronically via e.mail to Matthew Conroy - Matthew.Conroy@octief.com.au.

eurofins | mgt

30 years Testing For Life 1987–2017
Celebrating 30 years Testing and Protecting Human Health

Certificate of Analysis

OCTIEF Pty Ltd
Unit 34 53-57 Links Dve
Yatala
QLD 4207

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Matthew Conroy**

Report **616732-S**
Project name TWEED HOSPITAL CUDGEN RD
Project ID J8961
Received Date Sep 07, 2018

Client Sample ID			**SED01**	**SED02**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Se11654**	**M18-Se11655**
Date Sampled			**Aug 03, 2018**	**Aug 03, 2018**
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Chlordanes - Total	0.005	mg/kg	< 0.005	< 0.005
4.4'-DDD	0.001	mg/kg	< 0.001	< 0.001
4.4'-DDE	0.001	mg/kg	< 0.001	< 0.001
4.4'-DDT	0.001	mg/kg	< 0.001	< 0.001
a-BHC	0.001	mg/kg	< 0.001	< 0.001
Aldrin	0.001	mg/kg	< 0.001	< 0.001
b-BHC	0.001	mg/kg	< 0.001	< 0.001
d-BHC	0.001	mg/kg	< 0.001	< 0.001
Dieldrin	0.001	mg/kg	< 0.001	< 0.001
Endosulfan I	0.001	mg/kg	< 0.001	< 0.001
Endosulfan II	0.001	mg/kg	< 0.001	< 0.001
Endosulfan sulphate	0.001	mg/kg	< 0.001	< 0.001
Endrin	0.001	mg/kg	< 0.001	< 0.001
Endrin aldehyde	0.001	mg/kg	< 0.001	< 0.001
Endrin ketone	0.001	mg/kg	< 0.001	< 0.001
g-BHC (Lindane)	0.001	mg/kg	< 0.001	< 0.001
Heptachlor	0.001	mg/kg	< 0.001	< 0.001
Heptachlor epoxide	0.001	mg/kg	< 0.001	< 0.001
Hexachlorobenzene	0.001	mg/kg	< 0.001	< 0.001
Methoxychlor	0.001	mg/kg	< 0.001	< 0.001
Toxaphene	0.005	mg/kg	< 0.005	< 0.005
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
Dibutylchlorendate (surr.)	1	%	110	112
Tetrachloro-m-xylene (surr.)	1	%	108	121
% Moisture	1	%	70	76

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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
Organochlorine Pesticides	Melbourne	Sep 10, 2018	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Melbourne	Sep 10, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

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Site # 23736

Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGEN RD
Project ID: J8961

Order No.:
Report #: 616732
Phone: 07 5500 2800
Fax:

Received: Sep 7, 2018 3:03 PM
Due: Sep 14, 2018
Priority: 5 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Organochlorine Pesticides	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SED01	Aug 03, 2018		Soil	M18-Se11654	X	X
2	SED02	Aug 03, 2018		Soil	M18-Se11655	X	X
Test Counts						2	2

Internal Quality Control Review and Glossary

General

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3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
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6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
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****NOTE:** pH duplicates are reported as a range NOT as RPD

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 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							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.005			0.005	Pass	
4.4'-DDD	mg/kg	< 0.001			0.001	Pass	
4.4'-DDE	mg/kg	< 0.001			0.001	Pass	
4.4'-DDT	mg/kg	< 0.001			0.001	Pass	
a-BHC	mg/kg	< 0.001			0.001	Pass	
Aldrin	mg/kg	< 0.001			0.001	Pass	
b-BHC	mg/kg	< 0.001			0.001	Pass	
d-BHC	mg/kg	< 0.001			0.001	Pass	
Dieldrin	mg/kg	< 0.001			0.001	Pass	
Endosulfan I	mg/kg	< 0.001			0.001	Pass	
Endosulfan II	mg/kg	< 0.001			0.001	Pass	
Endosulfan sulphate	mg/kg	< 0.001			0.001	Pass	
Endrin	mg/kg	< 0.001			0.001	Pass	
Endrin aldehyde	mg/kg	< 0.001			0.001	Pass	
Endrin ketone	mg/kg	< 0.001			0.001	Pass	
g-BHC (Lindane)	mg/kg	< 0.001			0.001	Pass	
Heptachlor	mg/kg	< 0.001			0.001	Pass	
Heptachlor epoxide	mg/kg	< 0.001			0.001	Pass	
Hexachlorobenzene	mg/kg	< 0.001			0.001	Pass	
Methoxychlor	mg/kg	< 0.001			0.001	Pass	
Toxaphene	mg/kg	< 0.005			0.005	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	86			70-130	Pass	
4.4'-DDE	%	86			70-130	Pass	
4.4'-DDT	%	74			70-130	Pass	
a-BHC	%	83			70-130	Pass	
Aldrin	%	84			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	78			70-130	Pass	
Dieldrin	%	99			70-130	Pass	
Endosulfan I	%	85			70-130	Pass	
Endosulfan II	%	78			70-130	Pass	
Endosulfan sulphate	%	82			70-130	Pass	
Endrin	%	85			70-130	Pass	
Endrin aldehyde	%	85			70-130	Pass	
Endrin ketone	%	83			70-130	Pass	
g-BHC (Lindane)	%	82			70-130	Pass	
Heptachlor	%	77			70-130	Pass	
Heptachlor epoxide	%	84			70-130	Pass	
Hexachlorobenzene	%	83			70-130	Pass	
Methoxychlor	%	76			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M18-Se13081	NCP	%	82			70-130	Pass	
4.4'-DDE	M18-Se13081	NCP	%	87			70-130	Pass	
4.4'-DDT	M18-Se13081	NCP	%	79			70-130	Pass	
a-BHC	M18-Se13081	NCP	%	87			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	M18-Se13081	NCP	%	93			70-130	Pass	
b-BHC	M18-Se13081	NCP	%	82			70-130	Pass	
d-BHC	M18-Se13081	NCP	%	83			70-130	Pass	
Dieldrin	M18-Se13081	NCP	%	98			70-130	Pass	
Endosulfan I	M18-Se13081	NCP	%	85			70-130	Pass	
Endosulfan II	M18-Se13081	NCP	%	79			70-130	Pass	
Endosulfan sulphate	M18-Se13081	NCP	%	82			70-130	Pass	
Endrin	M18-Se13081	NCP	%	86			70-130	Pass	
Endrin aldehyde	M18-Se13081	NCP	%	79			70-130	Pass	
Endrin ketone	M18-Se13081	NCP	%	85			70-130	Pass	
g-BHC (Lindane)	M18-Se13081	NCP	%	86			70-130	Pass	
Heptachlor	M18-Se13081	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M18-Se13081	NCP	%	85			70-130	Pass	
Hexachlorobenzene	M18-Se13081	NCP	%	87			70-130	Pass	
Methoxychlor	M18-Se13081	NCP	%	70			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	Z18-Se08080	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	Z18-Se08080	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	Z18-Se08080	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Se11765	NCP	%	15	13	13	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

Authorised By

Ryan Gilbert	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
National Operations 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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Company Name: OCTIEF Pty Ltd
Address: Unit 34 53-57 Links Dve
Yatala
QLD 4207

Project Name: TWEED HOSPITAL CUDGEN RD
Project ID: J8961

Order No.:
Report #: 616732
Phone: 07 5500 2800
Fax:

Received: Sep 7, 2018 3:03 PM
Due: Sep 14, 2018
Priority: 5 Day
Contact Name: Matthew Conroy

Eurofins | mgt Analytical Services Manager : Ryan Gilbert

Sample Detail						Organochlorine Pesticides	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SED01	Aug 03, 2018		Soil	M18-Se11654	X	X
2	SED02	Aug 03, 2018		Soil	M18-Se11655	X	X
Test Counts						2	2

APPENDIX J CALIBRATION CERTIFICATES

Multi Parameter Water Meter

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 12D100009

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. COND	✓	
	3. ORP	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00	**NIST**	307928	pH 7.00
2. pH 4.00		pH 4.00	**NIST**	307927	pH 4.00
3. COND		2602mV	**NIST**	311901/311902	2601mV
4. ORP		234.94uS	**NIST**	304153	234.9uS
6. D.O		0 ppm	**NIST**	5253	0 ppm
7. Temp		22.7oC	**NIST**	MultiTherm 09000528	22.7oC

Calibrated by: **Sen Philip**

Calibration date: **2-Aug-18**

Next calibration due: **29-Jan-19**

supplied by .....
AEGIS SALES & SERVICE
www.aegissales.com.au
PO Box 663
Virginia BC QLD 4014
07 3865 1139
sales@aegissales.com.au

Honeywell Analytics

Calibration Certificate

Unit 1B, 69 Dalton Rd
Thomastown, VIC 3074
Ph: 03 9464 2770
Fx: 03 9464 2772

Certificate number
1803009

Customer Name	Calibrated By	Service Number	Sequence Number
Aegis	Paul Mai	HAA1803009	

Type of Unit	Model	Serial Number
MultiRAE Lite	PGM6208	M01C009445

This calibration is valid for 180 days.

Sensor Type	Lot Number	Alarm Setpoints		Gas Mixture & PPM
		Low	High	
PID	201671	50 PPM	100 PPM	100 PPM Isobutylene
CO	210953	25 PPM	200 PPM	4-Gas Mixture 50 PPM CO
H2S	210953	10 PPM	15 PPM	4-Gas Mixture 10 PPM H2S
LEL	210953	5%	10%	4-Gas Mixture 2.5% CH4
O2	Fresh Air	19.50%	23.50%	Fresh Air 20.9%

Declaration:

This certifies that the goods hereon have been inspected, tested and calibrated in accordance with the conditions and requirements of our Corporate Quality Systems, Servicing Standards and Sale's Agreements. All our calibration gas are traceable to National Standards - this is maintained by our Gas Suppliers.

Date Calibrated

21-Mar-18

Signed By