ANALYSIS REQUIRED

RCA Job Number: 13156a

SAMPLE INFORMATION

RCA Laboratories Environmental Sample Number	Client ID / Description	Date	Matrix	Total Samples	Acid Sulfate Screening												Notes:
091813156A055	TP19/0.3	5/09/18	S		X												
091813156A056	TP19/1	5/09/18	S		X												
091813156A057	TP19/1.7	5/09/18	S		X												
091813156A058	TP20/0.3	5/09/18	S		X												
091813156A059	TP20/1	5/09/18	S		X												
091813156A060	TP20/1.5	5/09/18	S		X												
091813156A061	TP21/0.3	6/09/18	S		X												
091813156A062	TP21/0.6	6/09/18	S		X												
091813156A063	TP22/0.3	6/09/18	S		X												
091813156A064	TP22/1	6/09/18	S		X												
091813156A065	TP23/0.3	6/09/18	S		X												
091813156A066	TP23/1	6/09/18	S		X												
091813156A067	TP24/0.3	6/09/18	S		X												
~~68~~	~~TP24/0.3~~	~~6/09/18~~	~~S~~		~~X~~												Not duplicate VQA
091813156A068	TP24/1	6/09/18	S		X												
091813156A069	TP25/0.3	6/09/18	S		X												
091813156A070	TP25/1	6/09/18	S		X												
091813156A071	TP25/1.2	6/09/18	S		X												
091813156A072	TP26/0.3	6/09/18	S		X												
091813156A073	TP26/1	6/09/18	S		X												
091813156A074	TP26/1.2	6/09/18	S		X												
091813156A075	TP27/0.3	6/09/18	S		X												
091813156A076	TP27/1	6/09/18	S		X												
091813156A077	TP27/1.1	6/09/18	S		X												

RELINQUISHED BY		RECEIVED BY		Laboratory use only (circle appropriate)
Name:R Lamont	Date:6/9/18	Name:	Date: 6/9	Received in good condition: Yes No
Of:RCA	Time:	Of: RCAVE	Time:	Chilled: ambient Yes No

RCA LABORATORIES
• ENVIRONMENTAL •
CONSTRUCTION MATERIALS TESTING

Ph: (02) 4902 9200 Fax: 02 4902 9299
92 Hill Street, Carrington NSW 2294
www.rca.com.au Email: labenviro@rca.com.au

ENV-F103-4

Client Name: Diocese of Maitland, Newcastle
Client Site: 507 Medowie Rd, Medowie

Contact Name: Richie Lamont
Phone Number: 0401 002 912

Email Report To: katys@rca.com.au, richiel@rca.com.au
Project Manager: Katy Shaw

Turnaround Required: ☒ Urgent ☐ Standard (5 Day)

Date Required: 10/09/2018

Expected Reporting Date: _____ *(Laboratory Use Only)*

ANALYSIS REQUIRED

Page of

RCA Job Number: 13156a

SAMPLE INFORMATION

RCA Laboratories Environmental Sample Number	Client ID / Description	Date	Matrix	Total Samples	Acid sulfate screening												Notes:
0918131560A0 ~~77~~ 78	TP28/0.3	6/09/18	S		X												
0918131560A0 ~~80~~ 79	TP28/1	6/09/18	S		X												

RELINQUISHED BY		RECEIVED BY		Laboratory use only (circle appropriate)
Name:R Lamont	Date:6/9/18	Name:	Date: 6/9/18	Received in good condition: Yes No
Of:RCA	Time:	Of: RCAE	Time:	Chilled: ambient Yes No

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1826659**	Page	: 1 of 4
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 10-Sep-2018 13:12
Order number	:	Date Analysis Commenced	: 17-Sep-2018
C-O-C number	: ----	Issue Date	: 17-Sep-2018 13:15
Sampler	: Richie Lamont		
Site	: 507 MEDOWIE RD, MEDOWIE		
Quote number	: SYBQ/400/18		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

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*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, 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.

- ASS: EA033 (CRS Suite):Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP1/1.5	TP3/1	TP4/0.3	TP8/1.7	TP18/0.3
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826659-001	ES1826659-002	ES1826659-003	ES1826659-004	ES1826659-005
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	4.9	4.8	5.1	5.9	4.7
Titratable Actual Acidity (23F)	----	2	mole H+ / t	26	37	17	7	30
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.04	0.06	0.03	<0.02	0.05
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.007	0.005	<0.005	0.012	<0.005
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	<10	<10
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5
Net Acidity (sulfur units)	----	0.02	% S	0.05	0.06	0.03	0.02	0.05
Net Acidity (acidity units)	----	10	mole H+ / t	30	40	17	14	30
Liming Rate	----	1	kg CaCO3/t	2	3	1	1	2
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.05	0.06	0.03	0.02	0.05
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	30	40	17	14	30
Liming Rate excluding ANC	----	1	kg CaCO3/t	2	3	1	1	2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP21/0.6	TP22/1	TP23/0.3	TP25/1.2	TP26/0.3
			Client sampling date / time	06-Sep-2018 00:00	06-Sep-2018 00:00	06-Sep-2018 00:00	06-Sep-2018 00:00	06-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826659-006	ES1826659-007	ES1826659-008	ES1826659-009	ES1826659-010
				Result	Result	Result	Result	Result
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	4.7	4.9	5.1	9.2	4.5
Titratable Actual Acidity (23F)	----	2	mole H+ / t	40	19	16	<2	73
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.06	0.03	0.02	<0.02	0.12
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.007	0.005	<0.005	0.094	0.015
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	59	<10
EA033-C: Acid Neutralising Capacity								
Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	----	----	----	14.5	----
acidity - Acid Neutralising Capacity (a-19A2)	----	10	mole H+ / t	----	----	----	2900	----
sulfidic - Acid Neutralising Capacity (s-19A2)	----	0.01	% pyrite S	----	----	----	4.65	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5
Net Acidity (sulfur units)	----	0.02	% S	0.07	0.04	0.02	<0.02	0.13
Net Acidity (acidity units)	----	10	mole H+ / t	45	22	16	<10	82
Liming Rate	----	1	kg CaCO3/t	3	2	1	<1	6
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.07	0.04	0.02	0.09	0.13
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	45	22	16	59	82
Liming Rate excluding ANC	----	1	kg CaCO3/t	3	2	1	4	6

QUALITY CONTROL REPORT

Work Order	: **ES1826659**	Page	: 1 of 3
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 10-Sep-2018
Order number	:	Date Analysis Commenced	: 17-Sep-2018
C-O-C number	: ----	Issue Date	: 17-Sep-2018
Sampler	: Richie Lamont		
Site	: 507 MEDOWIE RD, MEDOWIE		
Quote number	: SYBQ/400/18		
No. of samples received	: 10		
No. of samples analysed	: 10		

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*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, 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 (%)*
EA033-A: Actual Acidity (QC Lot: 1931987)									
EM1814525-001	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	7.6	7.6	0.00	0% - 20%
ES1826659-010	TP26/0.3	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.12	0.11	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	73	71	1.87	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.5	4.5	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 1931987)									
EM1814525-001	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.008	0.007	0.00	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
ES1826659-010	TP26/0.3	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.015	0.013	11.8	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA033-C: Acid Neutralising Capacity (QC Lot: 1931987)									
EM1814525-001	Anonymous	EA033: Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	16.3	16.4	0.565	0% - 20%
		EA033: sulfidic - Acid Neutralising Capacity (s-19A2)	----	0.01	% pyrite S	5.23	5.26	0.565	0% - 20%
		EA033: acidity - Acid Neutralising Capacity (a-19A2)	----	10	mole H+ / t	3260	3280	0.565	0% - 20%

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
EA033-A: Actual Acidity (QCLot: 1931987)								
EA033: pH KCl (23A)	----	----	pH Unit	----	4.6 pH Unit	104	70	130
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	17.7 mole H+ / t	84.7	70	130
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033-B: Potential Acidity (QCLot: 1931987)								
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.25483 % S	90.2	70	130
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----
EA033-C: Acid Neutralising Capacity (QCLot: 1931987)								
EA033: Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	<0.01	10 % CaCO3	103	70	130
EA033: acidity - Acid Neutralising Capacity (a-19A2)	----	10	mole H+ / t	<10	----	----	----	----
EA033: sulfidic - Acid Neutralising Capacity (s-19A2)	----	0.01	% pyrite S	<0.01	----	----	----	----

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.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1826659**	Page	: 1 of 6
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 10-Sep-2018
Site	: 507 MEDOWIE RD, MEDOWIE	Issue Date	: 17-Sep-2018
Sampler	: Richie Lamont	No. of samples received	: 10
Order number	:	No. of samples analysed	: 10

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

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

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA033-A: Actual Acidity						
Snap Lock Bag TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	17-Sep-2018	06-Sep-2018	**11**	----	----	----
Snap Lock Bag TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	17-Sep-2018	07-Sep-2018	**10**	----	----	----
EA033-B: Potential Acidity						
Snap Lock Bag TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	17-Sep-2018	06-Sep-2018	**11**	----	----	----
Snap Lock Bag TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	17-Sep-2018	07-Sep-2018	**10**	----	----	----
EA033-C: Acid Neutralising Capacity						
Snap Lock Bag TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	17-Sep-2018	06-Sep-2018	**11**	----	----	----
Snap Lock Bag TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	17-Sep-2018	07-Sep-2018	**10**	----	----	----
EA033-D: Retained Acidity						
Snap Lock Bag TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	17-Sep-2018	06-Sep-2018	**11**	----	----	----
Snap Lock Bag TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	17-Sep-2018	07-Sep-2018	**10**	----	----	----
EA033-E: Acid Base Accounting						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EA033-E: Acid Base Accounting - Analysis Holding Time Compliance						
Snap Lock Bag TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	17-Sep-2018	06-Sep-2018	**11**	----	----	----
Snap Lock Bag TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	17-Sep-2018	07-Sep-2018	**10**	----	----	----

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA033-A: Actual Acidity							
Snap Lock Bag (EA033) TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	**05-Sep-2018**	**17-Sep-2018**	06-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
Snap Lock Bag (EA033) TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	**06-Sep-2018**	**17-Sep-2018**	07-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
EA033-B: Potential Acidity							
Snap Lock Bag (EA033) TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	**05-Sep-2018**	**17-Sep-2018**	06-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
Snap Lock Bag (EA033) TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	**06-Sep-2018**	**17-Sep-2018**	07-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-C: Acid Neutralising Capacity							
Snap Lock Bag (EA033) TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	**05-Sep-2018**	**17-Sep-2018**	06-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
Snap Lock Bag (EA033) TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	**06-Sep-2018**	**17-Sep-2018**	07-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
EA033-D: Retained Acidity							
Snap Lock Bag (EA033) TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	**05-Sep-2018**	**17-Sep-2018**	06-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
Snap Lock Bag (EA033) TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	**06-Sep-2018**	**17-Sep-2018**	07-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
EA033-E: Acid Base Accounting							
Snap Lock Bag (EA033) TP1/1.5, TP3/1, TP4/0.3, TP8/1.7, TP18/0.3	**05-Sep-2018**	**17-Sep-2018**	06-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓
Snap Lock Bag (EA033) TP21/0.6, TP22/1, TP23/0.3, TP25/1.2, TP26/0.3	**06-Sep-2018**	**17-Sep-2018**	07-Sep-2018	×	**17-Sep-2018**	16-Dec-2018	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Chromium Suite for Acid Sulphate Soils	EA033	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ **Sydney:** 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
☐ **Newcastle:** 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ **Brisbane:** 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
☐ **Townsville:** 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ **Melbourne:** 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ **Adelaide:** 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ **Perth:** 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ **Launceston:** 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

CLIENT:	RCA Australia	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):** ☐ Non Standard or urgent TAT **(List due date):**
OFFICE:	92 Hill Street, Carrington		
RCA Ref No:	13156A	**ALS QUOTE NO.:**	SYBQ_400_17
507 Medowie Rd, Medowie			
PROJECT MANAGER: Katy Shaw		**CONTACT PH:**0408467698	
SAMPLER: R.Lamont		**SAMPLER MOBILE:** 0401002912	
COC Emailed to ALS? (YES / NO)		**EDD FORMAT (or default):**	
Email Reports to: administrator@rca.com.au + richiel@rca.com.au, katys@rca.com.au			
Email Invoice to: as above			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comment:	6.7		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
R.Lamont	KH		MC
DATE/TIME: 10/9/18	DATE/TIME: 10/9/18 1.12pm	DATE/TIME:	DATE/TIME: 10/9/18

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	CRS								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP1/1.5	5/09/2018	S			X								
2	TP3/1	5/09/2018	S			X								
3	TP4/0.3	5/09/2018	S			X								
4	TP8/1.7	5/09/2018	S			X								
5	TP18/0.3	5/09/2018	S			X								
6	TP21/0.6	6/09/2018	S			X								
7	TP22/1	6/09/2018	S			X								
8	TP23/0.3	6/09/2018	S			X								
9	TP25/1.2	6/09/2018	S			X								
10	TP26/0.3	6/09/2018	S			X								
				TOTAL										

E-MAILED

Environmental Division Sydney
Work Order Reference
ES1826659

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1826659**

Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: katys@rca.com.au	E-mail	: ALSEnviro.Sydney@alsglobal.com
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 49029299	Facsimile	: +61-2-8784 8500
Project	: 13156A	Page	: 1 of 3
Order number	:	Quote number	: ES2017ROBCAR0004 (SYBQ/400/18)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: 507 MEDOWIE RD, MEDOWIE		
Sampler	: Richie Lamont		

Dates

Date Samples Received	: 10-Sep-2018 13:12	Issue Date	: 10-Sep-2018
Client Requested Due Date	: 17-Sep-2018	Scheduled Reporting Date	: **17-Sep-2018**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 6.7'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 10 / 10

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Brisbane.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA026 Chromium Reducible Sulphur
ES1826659-001	05-Sep-2018 00:00	TP1/1.5	✓
ES1826659-002	05-Sep-2018 00:00	TP3/1	✓
ES1826659-003	05-Sep-2018 00:00	TP4/0.3	✓
ES1826659-004	05-Sep-2018 00:00	TP8/1.7	✓
ES1826659-005	05-Sep-2018 00:00	TP18/0.3	✓
ES1826659-006	06-Sep-2018 00:00	TP21/0.6	✓
ES1826659-007	06-Sep-2018 00:00	TP22/1	✓
ES1826659-008	06-Sep-2018 00:00	TP23/0.3	✓
ES1826659-009	06-Sep-2018 00:00	TP25/1.2	✓
ES1826659-010	06-Sep-2018 00:00	TP26/0.3	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / **Client Sample ID(s)**	**Container**	**Due for extraction**	**Due for analysis**	**Samples Received**		**Instructions Received**	
				Date	**Evaluation**	**Date**	**Evaluation**
EA026: Chromium Reducible Sulphur							
TP1/1.5	Snap Lock Bag	06-Sep-2018	05-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP18/0.3	Snap Lock Bag	06-Sep-2018	05-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP21/0.6	Snap Lock Bag	07-Sep-2018	06-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP22/1	Snap Lock Bag	07-Sep-2018	06-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP23/0.3	Snap Lock Bag	07-Sep-2018	06-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP25/1.2	Snap Lock Bag	07-Sep-2018	06-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP26/0.3	Snap Lock Bag	07-Sep-2018	06-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP3/1	Snap Lock Bag	06-Sep-2018	05-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP4/0.3	Snap Lock Bag	06-Sep-2018	05-Dec-2018	10-Sep-2018	×	10-Sep-2018	×
TP8/1.7	Snap Lock Bag	06-Sep-2018	05-Dec-2018	10-Sep-2018	×	10-Sep-2018	×

Requested Deliverables

ALL INVOICES

- *AU Certificate of Analysis - NATA (COA)	Email	administrator@rca.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	administrator@rca.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	administrator@rca.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	administrator@rca.com.au
- A4 - AU Tax Invoice (INV)	Email	administrator@rca.com.au
- Chain of Custody (CoC) (COC)	Email	administrator@rca.com.au
- EDI Format - ENMRG (ENMRG)	Email	administrator@rca.com.au
- EDI Format - ESDAT (ESDAT)	Email	administrator@rca.com.au

KATY SHAW

- *AU Certificate of Analysis - NATA (COA)	Email	katys@rca.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	katys@rca.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	katys@rca.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	katys@rca.com.au
- A4 - AU Tax Invoice (INV)	Email	katys@rca.com.au
- Chain of Custody (CoC) (COC)	Email	katys@rca.com.au
- EDI Format - ENMRG (ENMRG)	Email	katys@rca.com.au
- EDI Format - ESDAT (ESDAT)	Email	katys@rca.com.au

Richie Lamont

- *AU Certificate of Analysis - NATA (COA)	Email	richiel@rca.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richiel@rca.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richiel@rca.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	richiel@rca.com.au
- A4 - AU Tax Invoice (INV)	Email	richiel@rca.com.au
- Chain of Custody (CoC) (COC)	Email	richiel@rca.com.au
- EDI Format - ENMRG (ENMRG)	Email	richiel@rca.com.au
- EDI Format - ESDAT (ESDAT)	Email	richiel@rca.com.au

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1826526**	Page	: 1 of 42
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 07-Sep-2018 14:53
Order number	:	Date Analysis Commenced	: 10-Sep-2018
C-O-C number	: ----	Issue Date	: 15-Sep-2018 11:29
Sampler	: Richie Lamont		
Site	: ----		
Quote number	: SYBQ/400/18		
No. of samples received	: 48		
No. of samples analysed	: 47		

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*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

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.

- EP080: Positive results for sample ES1826526_40 has been confirmed by re-analysis.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEX only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-001	ES1826526-002	ES1826526-003	ES1826526-004	ES1826526-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.1	19.5	17.3	25.7	20.2
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	29	13	42	36	49
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	9	10	9	14	7
Nickel	7440-02-0	2	mg/kg	3	<2	2	16	3
Zinc	7440-66-6	5	mg/kg	7	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.05	----	<0.05	----	<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	TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-001	ES1826526-002	ES1826526-003	ES1826526-004	ES1826526-005
				Result	Result	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	<0.05	----	<0.05	----	<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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-001	ES1826526-002	ES1826526-003	ES1826526-004	ES1826526-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-001	ES1826526-002	ES1826526-003	ES1826526-004	ES1826526-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	126	----	113	----	104
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	65.2	----	65.5	----	85.7
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	71.1	72.4	81.1	75.8	67.2
2-Chlorophenol-D4	93951-73-6	0.5	%	74.2	73.5	74.9	72.1	68.0
2.4.6-Tribromophenol	118-79-6	0.5	%	66.5	58.7	72.1	67.4	66.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	87.8	68.0	71.9	76.7	93.9
Anthracene-d10	1719-06-8	0.5	%	74.4	76.5	72.5	77.3	75.8
4-Terphenyl-d14	1718-51-0	0.5	%	68.8	88.2	75.8	92.4	71.6
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	98.0	86.7	98.7	95.3	104
Toluene-D8	2037-26-5	0.2	%	88.9	91.8	110	99.4	107
4-Bromofluorobenzene	460-00-4	0.2	%	106	90.8	103	94.8	100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP4 1.0	TP5 0.3	TP5 1.6	TP6 1.0	TP7 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-006	ES1826526-007	ES1826526-008	ES1826526-009	ES1826526-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.7	16.9	16.6	19.7	19.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	36	33	54	14	49
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	10	10	12	5	11
Nickel	7440-02-0	2	mg/kg	4	3	3	<2	4
Zinc	7440-66-6	5	mg/kg	13	8	16	<5	8
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP4 1.0	TP5 0.3	TP5 1.6	TP6 1.0	TP7 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-006	ES1826526-007	ES1826526-008	ES1826526-009	ES1826526-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP4 1.0	TP5 0.3	TP5 1.6	TP6 1.0	TP7 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-006	ES1826526-007	ES1826526-008	ES1826526-009	ES1826526-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	**140**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	**140**	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	**130**	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	**190**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	**320**	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP4 1.0	TP5 0.3	TP5 1.6	TP6 1.0	TP7 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-006	ES1826526-007	ES1826526-008	ES1826526-009	ES1826526-010
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	83.4	----	79.3	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	116	----	81.6	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	75.1	76.4	76.2	85.1	72.7
2-Chlorophenol-D4	93951-73-6	0.5	%	78.1	77.2	78.8	77.2	76.2
2.4.6-Tribromophenol	118-79-6	0.5	%	94.3	67.4	60.7	74.2	73.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	111	76.6	83.9	73.1	68.7
Anthracene-d10	1719-06-8	0.5	%	78.4	77.4	82.4	89.4	80.6
4-Terphenyl-d14	1718-51-0	0.5	%	76.0	78.5	76.2	78.4	77.2
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	99.3	101	110	96.0	96.0
Toluene-D8	2037-26-5	0.2	%	101	97.7	110	102	100
4-Bromofluorobenzene	460-00-4	0.2	%	96.0	92.8	102	95.6	91.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP7 1.6	TP8 0.3	TP9 0.3	TP9 1.5	TP10 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-011	ES1826526-012	ES1826526-013	ES1826526-014	ES1826526-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	24.2	21.7	19.0	19.4	19.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	80	29	20	24	28
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	8	8	11	8	8
Nickel	7440-02-0	2	mg/kg	2	4	4	4	3
Zinc	7440-66-6	5	mg/kg	<5	7	22	8	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.05	----	<0.05	----	<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	TP7 1.6	TP8 0.3	TP9 0.3	TP9 1.5	TP10 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-011	ES1826526-012	ES1826526-013	ES1826526-014	ES1826526-015
				Result	Result	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	<0.05	----	<0.05	----	<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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP7 1.6	TP8 0.3	TP9 0.3	TP9 1.5	TP10 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-011	ES1826526-012	ES1826526-013	ES1826526-014	ES1826526-015
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP7 1.6	TP8 0.3	TP9 0.3	TP9 1.5	TP10 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-011	ES1826526-012	ES1826526-013	ES1826526-014	ES1826526-015
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	80.0	----	81.7	----	104
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	82.4	----	121	----	63.0
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	75.9	71.2	75.4	76.3	74.2
2-Chlorophenol-D4	93951-73-6	0.5	%	75.6	73.7	74.5	74.3	72.3
2.4.6-Tribromophenol	118-79-6	0.5	%	88.2	69.5	71.2	52.0	63.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	102	78.5	65.8	77.3	77.9
Anthracene-d10	1719-06-8	0.5	%	96.4	80.2	76.6	77.6	75.1
4-Terphenyl-d14	1718-51-0	0.5	%	95.1	77.4	75.3	70.2	75.1
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	88.4	109	96.5	109	98.5
Toluene-D8	2037-26-5	0.2	%	85.4	116	93.6	100	91.6
4-Bromofluorobenzene	460-00-4	0.2	%	85.0	104	86.4	95.0	87.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP11 0.3	TP11 1.5	TP12 1.0	TP13 0.3	TP13 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-016	ES1826526-017	ES1826526-018	ES1826526-019	ES1826526-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.1	19.1	19.0	19.5	18.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	23	9	22	12
Copper	7440-50-8	5	mg/kg	<5	<5	10	<5	<5
Lead	7439-92-1	5	mg/kg	10	8	9	11	12
Nickel	7440-02-0	2	mg/kg	3	4	<2	5	3
Zinc	7440-66-6	5	mg/kg	7	10	<5	24	32
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP11 0.3	TP11 1.5	TP12 1.0	TP13 0.3	TP13 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-016	ES1826526-017	ES1826526-018	ES1826526-019	ES1826526-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP11 0.3	TP11 1.5	TP12 1.0	TP13 0.3	TP13 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-016	ES1826526-017	ES1826526-018	ES1826526-019	ES1826526-020
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP11 0.3	TP11 1.5	TP12 1.0	TP13 0.3	TP13 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-016	ES1826526-017	ES1826526-018	ES1826526-019	ES1826526-020
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	126	----	80.4	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	92.7	----	123	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	70.8	87.3	74.0	69.4	68.6
2-Chlorophenol-D4	93951-73-6	0.5	%	68.6	78.6	71.1	69.8	71.7
2.4.6-Tribromophenol	118-79-6	0.5	%	73.4	58.0	77.8	50.5	78.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	79.3	73.8	84.1	86.9	87.4
Anthracene-d10	1719-06-8	0.5	%	73.2	78.7	75.2	83.0	76.8
4-Terphenyl-d14	1718-51-0	0.5	%	70.8	68.2	71.1	72.2	78.1
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	100	98.1	104	99.6	105
Toluene-D8	2037-26-5	0.2	%	96.1	87.4	100.0	88.6	97.6
4-Bromofluorobenzene	460-00-4	0.2	%	90.1	80.8	88.8	82.4	87.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3	TP17 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-021	ES1826526-022	ES1826526-023	ES1826526-024	ES1826526-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.6	20.0	19.3	20.9	19.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	36	34	38	23	36
Copper	7440-50-8	5	mg/kg	<5	<5	<5	9	<5
Lead	7439-92-1	5	mg/kg	8	8	10	13	9
Nickel	7440-02-0	2	mg/kg	5	4	4	5	5
Zinc	7440-66-6	5	mg/kg	14	9	14	86	18
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.05	----	<0.05	----	<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	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3	TP17 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-021	ES1826526-022	ES1826526-023	ES1826526-024	ES1826526-025
				Result	Result	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	<0.05	----	<0.05	----	<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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	**0.9**	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	**0.8**	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3	TP17 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-021	ES1826526-022	ES1826526-023	ES1826526-024	ES1826526-025
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	**1.7**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3	TP17 1.0
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-021	ES1826526-022	ES1826526-023	ES1826526-024	ES1826526-025
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	123	----	126	----	101
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	102	----	63.6	----	68.2
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	69.5	66.6	69.2	66.3	68.6
2-Chlorophenol-D4	93951-73-6	0.5	%	79.4	78.7	79.0	74.3	81.6
2.4.6-Tribromophenol	118-79-6	0.5	%	69.4	59.2	57.0	60.7	55.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	95.9	97.2	96.2	94.5	99.5
Anthracene-d10	1719-06-8	0.5	%	89.6	89.8	88.9	87.0	91.2
4-Terphenyl-d14	1718-51-0	0.5	%	79.1	82.4	78.8	80.0	82.0
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	86.2	91.4	106	99.5	97.9
Toluene-D8	2037-26-5	0.2	%	87.9	97.8	109	103	101
4-Bromofluorobenzene	460-00-4	0.2	%	97.2	101	110	105	104

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-026	ES1826526-027	ES1826526-028	ES1826526-029	ES1826526-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	21.6	17.5	18.8	21.7	19.9
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	34	41	36	39	41
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	12	6	15	9	8
Nickel	7440-02-0	2	mg/kg	4	2	5	5	5
Zinc	7440-66-6	5	mg/kg	11	<5	110	14	9
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-026	ES1826526-027	ES1826526-028	ES1826526-029	ES1826526-030
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-026	ES1826526-027	ES1826526-028	ES1826526-029	ES1826526-030
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-026	ES1826526-027	ES1826526-028	ES1826526-029	ES1826526-030
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	133	----	128	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	81.3	----	102	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	69.2	68.1	66.6	68.9	68.4
2-Chlorophenol-D4	93951-73-6	0.5	%	79.3	78.9	77.2	80.3	81.2
2.4.6-Tribromophenol	118-79-6	0.5	%	69.9	54.8	54.4	75.1	70.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	96.2	96.3	95.3	96.9	97.8
Anthracene-d10	1719-06-8	0.5	%	90.0	88.5	87.7	91.1	90.6
4-Terphenyl-d14	1718-51-0	0.5	%	79.5	78.5	76.7	79.3	81.2
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	95.9	96.6	95.0	91.0	92.0
Toluene-D8	2037-26-5	0.2	%	101	106	97.2	99.5	95.4
4-Bromofluorobenzene	460-00-4	0.2	%	107	106	98.6	102	99.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-031	ES1826526-032	ES1826526-033	ES1826526-034	ES1826526-035
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**14.3**	**4.7**	**7.8**	**7.1**	**19.9**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**12**	<2	**3**	**3**	**40**
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	**9**	<5	<5	**6**	**10**
Nickel	7440-02-0	2	mg/kg	**4**	<2	<2	<2	**8**
Zinc	7440-66-6	5	mg/kg	**15**	<5	<5	**7**	**7**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.05	----	<0.05	----	<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	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-031	ES1826526-032	ES1826526-033	ES1826526-034	ES1826526-035
				Result	Result	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	<0.05	----	<0.05	----	<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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-031	ES1826526-032	ES1826526-033	ES1826526-034	ES1826526-035
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-031	ES1826526-032	ES1826526-033	ES1826526-034	ES1826526-035
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	130	----	133	----	120
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	106	----	108	----	83.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	67.5	78.0	72.8	73.9	68.0
2-Chlorophenol-D4	93951-73-6	0.5	%	78.4	86.5	83.3	81.3	80.6
2.4.6-Tribromophenol	118-79-6	0.5	%	64.8	74.4	67.7	74.4	62.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	96.2	102	99.1	95.9	97.2
Anthracene-d10	1719-06-8	0.5	%	88.2	93.8	91.8	99.1	91.3
4-Terphenyl-d14	1718-51-0	0.5	%	80.6	81.8	86.5	82.8	81.7
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	96.0	107	107	104	112
Toluene-D8	2037-26-5	0.2	%	97.3	113	108	104	117
4-Bromofluorobenzene	460-00-4	0.2	%	99.8	114	110	107	118

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-036	ES1826526-037	ES1826526-038	ES1826526-039	ES1826526-040
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.5	8.8	10.6	32.0	7.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	35	10	6	43	8
Copper	7440-50-8	5	mg/kg	<5	7	8	<5	46
Lead	7439-92-1	5	mg/kg	6	30	32	16	56
Nickel	7440-02-0	2	mg/kg	6	3	<2	8	11
Zinc	7440-66-6	5	mg/kg	6	38	47	<5	68
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-036	ES1826526-037	ES1826526-038	ES1826526-039	ES1826526-040
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	**0.5**
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	**1.0**	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	**0.7**	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	**2.2**	**9.0**	<0.5	**1.4**
Anthracene	120-12-7	0.5	mg/kg	<0.5	**0.7**	**2.8**	<0.5	**0.6**
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**8.8**	**16.4**	<0.5	**4.3**
Pyrene	129-00-0	0.5	mg/kg	<0.5	**7.9**	**14.2**	<0.5	**4.2**
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**3.7**	**5.7**	<0.5	**2.0**
Chrysene	218-01-9	0.5	mg/kg	<0.5	**3.6**	**5.6**	<0.5	**1.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-036	ES1826526-037	ES1826526-038	ES1826526-039	ES1826526-040
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**5.0**	**8.1**	<0.5	**2.6**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	**2.0**	**3.1**	<0.5	**1.0**
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**4.0**	**7.1**	<0.5	**2.3**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	**2.5**	**4.4**	<0.5	**1.2**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	**0.7**	**1.0**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	**3.3**	**6.2**	<0.5	**1.6**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	**44.4**	**85.3**	<0.5	**23.5**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	**6.1**	**10.3**	<0.5	**3.0**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**6.1**	**10.3**	**0.6**	**3.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**6.1**	**10.3**	**1.2**	**3.5**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	**120**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	**110**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	**230**	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	**110**	**190**	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	**110**	**190**	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	**0.8**
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	**0.8**
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-036	ES1826526-037	ES1826526-038	ES1826526-039	ES1826526-040
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	93.1	----	----	112
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	75.4	----	----	104
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	68.4	65.5	67.4	66.7	68.8
2-Chlorophenol-D4	93951-73-6	0.5	%	79.4	75.9	76.8	78.6	78.0
2.4.6-Tribromophenol	118-79-6	0.5	%	51.4	52.2	57.4	51.9	58.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	97.1	93.7	95.0	95.8	94.7
Anthracene-d10	1719-06-8	0.5	%	91.0	86.6	84.3	90.0	87.7
4-Terphenyl-d14	1718-51-0	0.5	%	81.6	74.2	75.7	79.6	75.3
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	91.3	104	102	90.8	102
Toluene-D8	2037-26-5	0.2	%	97.1	103	102	92.6	108
4-Bromofluorobenzene	460-00-4	0.2	%	98.8	104	106	98.9	109

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP27 0.3	TP28 1.0	TS	TB	QA6
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-041	ES1826526-042	ES1826526-043	ES1826526-044	ES1826526-045
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	8.3	9.1	----	----	19.2
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	----	----	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg	8	8	----	----	31
Copper	7440-50-8	5	mg/kg	61	33	----	----	<5
Lead	7439-92-1	5	mg/kg	59	64	----	----	11
Nickel	7440-02-0	2	mg/kg	15	13	----	----	7
Zinc	7440-66-6	5	mg/kg	78	86	----	----	11
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	0.2	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP27 0.3	TP28 1.0	TS	TB	QA6
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-041	ES1826526-042	ES1826526-043	ES1826526-044	ES1826526-045
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.6**	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	**0.7**	**1.5**	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**1.7**	**5.1**	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	**0.7**	**2.0**	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**5.0**	**20.1**	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	**4.7**	**18.9**	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**2.4**	**8.7**	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	**2.1**	**7.3**	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP27 0.3	TP28 1.0	TS	TB	QA6
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-041	ES1826526-042	ES1826526-043	ES1826526-044	ES1826526-045
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.9	9.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.4	3.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.4	8.7	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.3	4.7	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.2	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.5	6.0	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	27.4	97.2	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	3.2	12.7	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	3.5	12.7	----	----	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	3.7	12.7	----	----	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	26	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	240	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	210	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	450	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	31	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	13	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	170	410	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	110	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	170	520	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	1.3	<0.2	0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	8.8	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	5.7	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	2.3	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	1.3	<0.2	18.1	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	8.0	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TP27 0.3	TP28 1.0	TS	TB	QA6
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	ES1826526-041	ES1826526-042	ES1826526-043	ES1826526-044	ES1826526-045
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	75.3	----	----	109
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	82.0	----	----	62.2
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	82.3	80.6	----	----	86.3
2-Chlorophenol-D4	93951-73-6	0.5	%	83.1	82.6	----	----	84.6
2.4.6-Tribromophenol	118-79-6	0.5	%	69.2	69.2	----	----	69.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	90.9	90.3	----	----	89.5
Anthracene-d10	1719-06-8	0.5	%	92.0	89.8	----	----	94.2
4-Terphenyl-d14	1718-51-0	0.5	%	86.8	89.6	----	----	86.4
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	117	110	101	110	89.4
Toluene-D8	2037-26-5	0.2	%	109	110	94.4	102	90.6
4-Bromofluorobenzene	460-00-4	0.2	%	110	107	99.0	107	91.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA7	TSC	----	----	----
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1826526-046	ES1826526-047	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**22.9**	----	----	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**40**	----	----	----	----
Copper	7440-50-8	5	mg/kg	<5	----	----	----	----
Lead	7439-92-1	5	mg/kg	**11**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**5**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**13**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	**24**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA7	TSC	----	----	----
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1826526-046	ES1826526-047	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	28	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	12	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	8.1	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1.0	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	5.1	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2.0	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	16.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	7.1	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	82.9	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	82.8	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	67.8	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	88.9	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	93.7	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	86.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	98.1	99.1	----	----	----
Toluene-D8	2037-26-5	0.2	%	96.3	99.3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA7	TSC	----	----	----
			Client sampling date / time	05-Sep-2018 00:00	05-Sep-2018 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1826526-046	ES1826526-047	--------	--------	--------
				Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	0.2	%	97.2	98.8	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

QUALITY CONTROL REPORT

Work Order	: **ES1826526**	Page	: 1 of 24
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 07-Sep-2018
Order number	:	Date Analysis Commenced	: 10-Sep-2018
C-O-C number	: ----	Issue Date	: 15-Sep-2018
Sampler	: Richie Lamont		
Site	: ----		
Quote number	: SYBQ/400/18		
No. of samples received	: 48		
No. of samples analysed	: 47		

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*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

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: 1925086)									
ES1826440-059	Anonymous	EA055: Moisture Content	----	0.1	%	11.7	10.5	10.6	0% - 50%
ES1826526-003	TP2 1.5	EA055: Moisture Content	----	0.1	%	17.3	17.3	0.00	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1925087)									
ES1826526-012	TP8 0.3	EA055: Moisture Content	----	0.1	%	21.7	21.0	3.13	0% - 20%
ES1826526-023	TP15 1.0	EA055: Moisture Content	----	0.1	%	19.3	20.3	4.89	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1925088)									
ES1826526-032	TP22 0.3	EA055: Moisture Content	----	0.1	%	4.7	5.0	7.10	No Limit
ES1826526-045	QA6	EA055: Moisture Content	----	0.1	%	19.2	18.6	2.87	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1929647)									
ES1826526-001	TP1 1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	29	32	11.2	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	8	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	7	6	0.00	No Limit
ES1826526-011	TP7 1.6	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	80	93	16.0	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	9	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.00	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1929649)									

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 (%)
EG005T: Total Metals by ICP-AES (QC Lot: 1929649) - continued									
ES1826526-021	TP14 0.3	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	36	35	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	13	43.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	12	14.4	No Limit
ES1826526-031	TP21 0.3	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	8	11.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	15	12	25.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1929685)									
EM1814519-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	14	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	10	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	7	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	38	40	4.49	No Limit
ES1826701-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	21	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	23	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	44	36	20.2	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1929648)									
ES1826526-001	TP1 1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1826526-011	TP7 1.6	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1929650)									
ES1826526-021	TP14 0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1826526-031	TP21 0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1929686)									
EM1814519-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1826701-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1921822)									

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: 1921822) - continued									
ES1826526-001	TP1 1.0	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: 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
		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	<0.05	<0.05	0.00	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: 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: 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
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1921828)									
ES1826526-021	TP14 0.3	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: 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
		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	<0.05	<0.05	0.00	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: 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

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: 1921828) - continued									
ES1826526-021	TP14 0.3	EP068: Endrin ketone	53494-70-5	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
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1922554)									
ES1826526-042	TP28 1.0	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: 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
		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	<0.05	<0.05	0.00	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: 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: 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: 1921822)									
ES1826526-001	TP1 1.0	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

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 (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1921822) - continued									
ES1826526-001	TP1 1.0	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-methyl	298-00-0	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
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1921828)									
ES1826526-021	TP14 0.3	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-methyl	298-00-0	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
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1922554)									
ES1826526-042	TP28 1.0	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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1922554) - continued									
ES1826526-042	TP28 1.0	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-methyl	298-00-0	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1921820)									
ES1826526-011	TP7 1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES1826526-001	TP1 1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1921820) - continued									
ES1826526-001	TP1 1.0	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1921827)									
ES1826526-031	TP21 0.3	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES1826526-021	TP14 0.3	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1921827) - continued									
ES1826526-021	TP14 0.3	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1922552)									
ES1826540-016	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES1826526-042	TP28 1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.5	1.3	8.76	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	5.1	4.7	8.29	0% - 50%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	2.0	1.7	16.5	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	20.1	20.6	2.38	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	18.9	20.0	5.83	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	8.7	9.3	7.18	0% - 50%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	7.3	8.1	9.86	0% - 50%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	9.5	9.7	2.12	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1922552) - continued									
ES1826526-042	TP28 1.0	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.5	4.0	14.1	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.7	9.1	4.90	0% - 50%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.7	5.3	11.1	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	1.2	1.4	17.1	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	6.0	6.2	3.80	0% - 50%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	97.2	101	4.23	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	12.7	13.5	6.12	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1921726)									
ES1826526-001	TP1 1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-011	TP7 1.6	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1921727)									
ES1826526-021	TP14 0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-031	TP21 0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1921728)									
ES1826440-063	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-046	QA7	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1921821)									
ES1826526-011	TP7 1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-001	TP1 1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1921826)									
ES1826526-031	TP21 0.3	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-021	TP14 0.3	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1922550)									
ES1826540-016	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-042	TP28 1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	240	220	7.04	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	210	220	5.68	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921726)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921726) - continued									
ES1826526-001	TP1 1.0	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-011	TP7 1.6	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921727)									
ES1826526-021	TP14 0.3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-031	TP21 0.3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921728)									
ES1826440-063	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1826526-046	QA7	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921821)									
ES1826526-011	TP7 1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-001	TP1 1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1921826)									
ES1826526-031	TP21 0.3	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-021	TP14 0.3	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1922550)									
ES1826540-016	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1826526-042	TP28 1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	410	400	3.05	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	110	120	10.1	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 1921726)									
ES1826526-001	TP1 1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1826526-011	TP7 1.6	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP080: BTEXN (QC Lot: 1921726) - continued									
ES1826526-011	TP7 1.6	EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 1921727)									
ES1826526-021	TP14 0.3	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1826526-031	TP21 0.3	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 1921728)									
ES1826440-063	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1826526-046	QA7	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	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: 1929647)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	101	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	91.1	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	96.8	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	100	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	103	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	118	80	122
EG005T: Total Metals by ICP-AES (QCLot: 1929649)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	99.9	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	100	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	94.6	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	97.2	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	98.6	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	104	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	116	80	122
EG005T: Total Metals by ICP-AES (QCLot: 1929685)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	102	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	91.0	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	99.4	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	102	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	105	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	122	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929648)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	78.3	70	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929650)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	73.6	70	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929686)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	75.0	70	105
EP068A: Organochlorine Pesticides (OC) (QCLot: 1921822)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	67	119

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: 1921822) - continued								
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.8	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	66	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	69	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	62	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	82.3	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	64	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	77.4	54	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1921828)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	67	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	107	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	103	66	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	69	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	108	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	62	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	98.0	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	64	122

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: 1921828) - continued								
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	95.3	54	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1922554)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	67	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	66	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	69	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	99.3	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	62	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.2	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	64	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	82.3	54	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1921822)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	81.4	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.4	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	83.8	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	77.8	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	87.1	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	81.6	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	68	124

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
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1921822) - continued								
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.2	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	70.5	41	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1921828)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	95.3	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.6	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	89.3	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.7	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.1	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	66.8	41	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1922554)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	80.3	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	78.5	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	106	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	80.4	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	77.6	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	80.2	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	80.1	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	77.4	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	79.7	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	66	118

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
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1922554) - continued								
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	75.1	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	85.8	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	67.3	41	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1921820)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	108	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	109	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	108	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	108	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	109	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	103	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	108	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	118	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	113	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	117	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	116	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	109	61	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	106	62	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	108	63	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1921827)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	118	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	115	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	114	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	118	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	116	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	116	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	121	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	121	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	102	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	113	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	102	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	114	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	114	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	110	61	121

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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1921827) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	110	62	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	107	63	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1922552)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	95.5	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	95.7	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	92.9	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	94.0	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	99.7	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.0	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	97.9	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	100	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	95.1	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	93.6	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	94.1	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.6	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	93.6	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.2	61	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	96.0	62	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	99.4	63	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921726)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	94.6	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921727)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	87.8	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921728)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.0	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921821)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	110	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	109	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	95.8	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921826)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	109	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	117	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	111	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1922550)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	99.1	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	110	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	110	71	129

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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921726)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	96.0	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921727)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	93.2	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921728)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	92.9	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921821)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	111	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	104	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	79.9	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921826)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	115	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	114	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	112	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1922550)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	101	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	109	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	101	63	131
EP080: BTEXN (QCLot: 1921726)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	102	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	93.4	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	89.4	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.4	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.0	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	90.2	63	119
EP080: BTEXN (QCLot: 1921727)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.4	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	91.7	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.6	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.9	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.2	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.9	63	119
EP080: BTEXN (QCLot: 1921728)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	97.3	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.2	65	117

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
EP080: BTEXN (QCLot: 1921728) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.8	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	91.2	63	119

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: 1929647)							
ES1826526-001	TP1 1.0	EG005T: Arsenic	7440-38-2	50 mg/kg	80.9	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	106	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	103	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	104	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	106	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	115	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1929649)							
ES1826526-021	TP14 0.3	EG005T: Arsenic	7440-38-2	50 mg/kg	78.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.2	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	93.9	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.0	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.1	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	104	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1929685)							
EM1814519-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	104	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	102	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	102	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	120	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929648)							
ES1826526-001	TP1 1.0	EG035T: Mercury	7439-97-6	5 mg/kg	81.5	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929650)							
ES1826526-021	TP14 0.3	EG035T: Mercury	7439-97-6	5 mg/kg	78.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1929686)							
EM1814519-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	75.1	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1921822)							
ES1826526-001	TP1 1.0	EP068: gamma-BHC	58-89-9	0.5 mg/kg	89.0	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	79.6	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.0	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	87.9	70	130
		EP068: Endrin	72-20-8	2 mg/kg	86.7	70	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	82.4	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1921828)							
ES1826526-021	TP14 0.3	EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.4	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	77.6	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	97.3	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	83.7	70	130
		EP068: Endrin	72-20-8	2 mg/kg	94.2	70	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	82.4	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1922554)							
ES1826526-042	TP28 1.0	EP068: gamma-BHC	58-89-9	0.5 mg/kg	95.8	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	95.8	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	81.5	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	95.5	70	130
		EP068: Endrin	72-20-8	2 mg/kg	98.8	70	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	92.0	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1921822)							
ES1826526-001	TP1 1.0	EP068: Diazinon	333-41-5	0.5 mg/kg	80.3	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	72.1	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	76.7	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	75.2	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	73.2	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1921828)							
ES1826526-021	TP14 0.3	EP068: Diazinon	333-41-5	0.5 mg/kg	75.5	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	77.4	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	73.8	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	79.4	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	83.7	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1922554)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1922554) - continued							
ES1826526-042	TP28 1.0	EP068: Diazinon	333-41-5	0.5 mg/kg	83.6	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	81.2	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	77.3	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.5	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	102	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1921820)							
ES1826526-001	TP1 1.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	86.1	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	106	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1921827)							
ES1826526-021	TP14 0.3	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.7	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	113	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1922552)							
ES1826526-042	TP28 1.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921726)							
ES1826526-001	TP1 1.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	77.2	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921727)							
ES1826526-021	TP14 0.3	EP080: C6 - C9 Fraction	----	32.5 mg/kg	78.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921728)							
ES1826440-063	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	81.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921821)							
ES1826526-001	TP1 1.0	EP071: C10 - C14 Fraction	----	523 mg/kg	91.1	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	115	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	129	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1921826)							
ES1826526-021	TP14 0.3	EP071: C10 - C14 Fraction	----	523 mg/kg	92.8	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	114	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	124	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1922550)							
ES1826526-042	TP28 1.0	EP071: C10 - C14 Fraction	----	523 mg/kg	110	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	122	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	124	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921726)							
ES1826526-001	TP1 1.0	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	81.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921727)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921727) - continued							
ES1826526-021	TP14 0.3	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	86.8	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921728)							
ES1826440-063	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	81.7	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921821)							
ES1826526-001	TP1 1.0	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	120	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	126	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1921826)							
ES1826526-021	TP14 0.3	EP071: >C10 - C16 Fraction	----	860 mg/kg	100	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	118	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	115	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1922550)							
ES1826526-042	TP28 1.0	EP071: >C10 - C16 Fraction	----	860 mg/kg	105	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	120	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	112	52	132
EP080: BTEXN (QCLot: 1921726)							
ES1826526-001	TP1 1.0	EP080: Benzene	71-43-2	2.5 mg/kg	77.7	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	71.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	76.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	75.2	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	77.4	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.2	70	130
EP080: BTEXN (QCLot: 1921727)							
ES1826526-021	TP14 0.3	EP080: Benzene	71-43-2	2.5 mg/kg	81.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	73.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	80.2	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	80.3	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.7	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	87.0	70	130
EP080: BTEXN (QCLot: 1921728)							
ES1826440-063	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	87.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	84.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.2	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	83.2	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 1921728) - continued							
ES1826440-063	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.5	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	83.5	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1826526**	Page	: 1 of 12
Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Telephone	: +61-2-8784 8555
Project	: 13156A	Date Samples Received	: 07-Sep-2018
Site	: ----	Issue Date	: 15-Sep-2018
Sampler	: Richie Lamont	No. of samples received	: 48
Order number	:	No. of samples analysed	: 47

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	**Analyte**	CAS Number	Data	Limits	**Comment**
Samples Submitted							
EP075(SIM)T: PAH Surrogates	ES1826526-002	TP2 0.3	**2-Fluorobiphenyl**	321-60-8	68.0 %	70-122 %	**Recovery less than lower data quality objective**
EP075(SIM)T: PAH Surrogates	ES1826526-010	TP7 1.0	**2-Fluorobiphenyl**	321-60-8	68.7 %	70-122 %	**Recovery less than lower data quality objective**
EP075(SIM)T: PAH Surrogates	ES1826526-013	TP9 0.3	**2-Fluorobiphenyl**	321-60-8	65.8 %	70-122 %	**Recovery less than lower data quality objective**

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method	***Sample Date***	*Extraction / Preparation*			*Analysis*		
Container / *Client Sample ID(s)*		***Date extracted***	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C) - Continued							
TP1 1.0, TP2 0.3, TP2 1.5, TP3 0.3, TP3 1.7, TP4 1.0, TP5 0.3, TP5 1.6, TP6 1.0, TP7 1.0, TP7 1.6, TP8 0.3, TP9 0.3, TP9 1.5, TP10 1.0, TP11 0.3, TP11 1.5, TP12 1.0, TP13 0.3, TP13 1.0, TP14 0.3, TP14 1.6, TP15 1.0, TP16 0.3, TP17 1.0, TP18 0.3, QA6, TP18 1.5, TP19 1.0, TP20 0.3, TP20 1.5, TP21 0.3, TP22 0.3, TP22 1.0, TP23 1.0, TP24 0.3, TP24 1.0, TP25 0.3, TP25 1.2, TP26 0.3, TP26 1.2, TP27 0.3, TP28 1.0, QA7	**05-Sep-2018**	**----**	----	----	**11-Sep-2018**	19-Sep-2018	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
TP1 1.0, TP2 0.3, TP2 1.5, TP3 0.3, TP3 1.7, TP4 1.0, TP5 0.3, TP5 1.6, TP6 1.0, TP7 1.0, TP7 1.6, TP8 0.3, TP9 0.3, TP9 1.5, TP10 1.0, TP11 0.3, TP11 1.5, TP12 1.0, TP13 0.3, TP13 1.0, TP14 0.3, TP14 1.6, TP15 1.0, TP16 0.3, TP17 1.0, TP18 0.3, QA6, TP18 1.5, TP19 1.0, TP20 0.3, TP20 1.5, TP21 0.3, TP22 0.3, TP22 1.0, TP23 1.0, TP24 0.3, TP24 1.0, TP25 0.3, TP25 1.2, TP26 0.3, TP26 1.2, TP27 0.3, TP28 1.0, QA7	**05-Sep-2018**	**13-Sep-2018**	04-Mar-2019	✓	**14-Sep-2018**	04-Mar-2019	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
TP1 1.0, TP2 0.3, TP2 1.5, TP3 0.3, TP3 1.7, TP4 1.0, TP5 0.3, TP5 1.6, TP6 1.0, TP7 1.0, TP7 1.6, TP8 0.3, TP9 0.3, TP9 1.5, TP10 1.0, TP11 0.3, TP11 1.5, TP12 1.0, TP13 0.3, TP13 1.0, TP14 0.3, TP14 1.6, TP15 1.0, TP16 0.3, TP17 1.0, TP18 0.3, QA6, TP18 1.5, TP19 1.0, TP20 0.3, TP20 1.5, TP21 0.3, TP22 0.3, TP22 1.0, TP23 1.0, TP24 0.3, TP24 1.0, TP25 0.3, TP25 1.2, TP26 0.3, TP26 1.2, TP27 0.3, TP28 1.0, QA7	**05-Sep-2018**	**13-Sep-2018**	03-Oct-2018	✓	**14-Sep-2018**	03-Oct-2018	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TP1 1.0, TP2 1.5, TP3 1.7, TP5 0.3, TP6 1.0, TP7 1.6, TP9 0.3, TP10 1.0, TP11 1.5, TP13 0.3, TP14 0.3, TP15 1.0, TP17 1.0, TP18 1.5, TP20 0.3, TP21 0.3, TP22 1.0, TP24 0.3, TP25 0.3, TP26 1.2, TP28 1.0, QA6	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	21-Oct-2018	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
TP1 1.0,	TP2 1.5,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	21-Oct-2018	✓
TP3 1.7,	TP5 0.3,							
TP6 1.0,	TP7 1.6,							
TP9 0.3,	TP10 1.0,							
TP11 1.5,	TP13 0.3,							
TP14 0.3,	TP15 1.0,							
TP17 1.0,	TP18 1.5,							
TP20 0.3,	TP21 0.3,							
TP22 1.0,	TP24 0.3,							
TP25 0.3,	TP26 1.2,							
TP28 1.0,	QA6							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
TP14 0.3,	TP14 1.6,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**11-Sep-2018**	21-Oct-2018	✓
TP15 1.0,	TP16 0.3,							
TP17 1.0,	TP18 0.3,							
TP18 1.5,	TP19 1.0,							
TP20 0.3,	TP20 1.5,							
TP21 0.3,	TP22 0.3,							
TP22 1.0,	TP23 1.0,							
TP24 0.3,	TP24 1.0,							
TP25 0.3,	TP25 1.2,							
TP26 0.3,	TP26 1.2							
Soil Glass Jar - Unpreserved (EP075(SIM))								
TP1 1.0,	TP2 0.3,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	21-Oct-2018	✓
TP2 1.5,	TP3 0.3,							
TP3 1.7,	TP4 1.0,							
TP5 0.3,	TP5 1.6,							
TP6 1.0,	TP7 1.0,							
TP7 1.6,	TP8 0.3,							
TP9 0.3,	TP9 1.5,							
TP10 1.0,	TP11 0.3,							
TP11 1.5,	TP12 1.0,							
TP13 0.3,	TP13 1.0,							
TP27 0.3,	TP28 1.0,							
QA6,	QA7							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TP1 1.0,	TP2 0.3,	**05-Sep-2018**	**10-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
TP2 1.5,	TP3 0.3,							
TP3 1.7,	TP4 1.0,							
TP5 0.3,	TP5 1.6,							
TP6 1.0,	TP7 1.0,							
TP7 1.6,	TP8 0.3,							
TP9 0.3,	TP9 1.5,							
TP10 1.0,	TP11 0.3,							
TP11 1.5,	TP12 1.0,							
TP13 0.3,	TP13 1.0,							
TP14 0.3,	TP14 1.6,							
TP15 1.0,	TP16 0.3,							
TP17 1.0,	TP18 0.3,							
TP18 1.5,	TP19 1.0,							
TP20 0.3,	TP20 1.5,							
TP21 0.3,	TP22 0.3,							
TP22 1.0,	TP23 1.0,							
TP24 0.3,	TP24 1.0,							
TP25 0.3,	TP25 1.2,							
TP26 0.3,	TP26 1.2							
Soil Glass Jar - Unpreserved (EP071)								
TP14 0.3,	TP14 1.6,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**11-Sep-2018**	21-Oct-2018	✓
TP15 1.0,	TP16 0.3,							
TP17 1.0,	TP18 0.3,							
TP18 1.5,	TP19 1.0,							
TP20 0.3,	TP20 1.5,							
TP21 0.3,	TP22 0.3,							
TP22 1.0,	TP23 1.0,							
TP24 0.3,	TP24 1.0,							
TP25 0.3,	TP25 1.2,							
TP26 0.3,	TP26 1.2							
Soil Glass Jar - Unpreserved (EP080)								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
TP1 1.0,	TP2 0.3,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
TP2 1.5,	TP3 0.3,							
TP3 1.7,	TP4 1.0,							
TP5 0.3,	TP5 1.6,							
TP6 1.0,	TP7 1.0,							
TP7 1.6,	TP8 0.3,							
TP9 0.3,	TP9 1.5,							
TP10 1.0,	TP11 0.3,							
TP11 1.5,	TP12 1.0,							
TP13 0.3,	TP13 1.0,							
TP27 0.3,	TP28 1.0,							
TS,	TB,							
QA6,	QA7,							
TSC								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080)							
TP1 1.0, TP2 0.3, TP2 1.5, TP3 0.3, TP3 1.7, TP4 1.0, TP5 0.3, TP5 1.6, TP6 1.0, TP7 1.0, TP7 1.6, TP8 0.3, TP9 0.3, TP9 1.5, TP10 1.0, TP11 0.3, TP11 1.5, TP12 1.0, TP13 0.3, TP13 1.0, TP14 0.3, TP14 1.6, TP15 1.0, TP16 0.3, TP17 1.0, TP18 0.3, TP18 1.5, TP19 1.0, TP20 0.3, TP20 1.5, TP21 0.3, TP22 0.3, TP22 1.0, TP23 1.0, TP24 0.3, TP24 1.0, TP25 0.3, TP25 1.2, TP26 0.3, TP26 1.2	**05-Sep-2018**	**10-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
Soil Glass Jar - Unpreserved (EP071)							
TP14 0.3, TP14 1.6, TP15 1.0, TP16 0.3, TP17 1.0, TP18 0.3, TP18 1.5, TP19 1.0, TP20 0.3, TP20 1.5, TP21 0.3, TP22 0.3, TP22 1.0, TP23 1.0, TP24 0.3, TP24 1.0, TP25 0.3, TP25 1.2, TP26 0.3, TP26 1.2	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**11-Sep-2018**	21-Oct-2018	✓
Soil Glass Jar - Unpreserved (EP080)							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
TP1 1.0,	TP2 0.3,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
TP2 1.5,	TP3 0.3,							
TP3 1.7,	TP4 1.0,							
TP5 0.3,	TP5 1.6,							
TP6 1.0,	TP7 1.0,							
TP7 1.6,	TP8 0.3,							
TP9 0.3,	TP9 1.5,							
TP10 1.0,	TP11 0.3,							
TP11 1.5,	TP12 1.0,							
TP13 0.3,	TP13 1.0,							
TP27 0.3,	TP28 1.0,							
TS,	TB,							
QA6,	QA7,							
TSC								
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
TP1 1.0,	TP2 0.3,	**05-Sep-2018**	**10-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
TP2 1.5,	TP3 0.3,							
TP3 1.7,	TP4 1.0,							
TP5 0.3,	TP5 1.6,							
TP6 1.0,	TP7 1.0,							
TP7 1.6,	TP8 0.3,							
TP9 0.3,	TP9 1.5,							
TP10 1.0,	TP11 0.3,							
TP11 1.5,	TP12 1.0,							
TP13 0.3,	TP13 1.0,							
TP14 0.3,	TP14 1.6,							
TP15 1.0,	TP16 0.3,							
TP17 1.0,	TP18 0.3,							
TP18 1.5,	TP19 1.0,							
TP20 0.3,	TP20 1.5,							
TP21 0.3,	TP22 0.3,							
TP22 1.0,	TP23 1.0,							
TP24 0.3,	TP24 1.0,							
TP25 0.3,	TP25 1.2,							
TP26 0.3,	TP26 1.2							
Soil Glass Jar - Unpreserved (EP080)								
TP27 0.3,	TP28 1.0,	**05-Sep-2018**	**11-Sep-2018**	19-Sep-2018	✓	**12-Sep-2018**	19-Sep-2018	✓
TS,	TB,							
QA6,	QA7,							
TSC								

Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	6	56	10.71	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	22	13.64	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	6	57	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	3	56	5.36	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	22	13.64	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	57	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	3	56	5.36	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	22	13.64	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	57	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	3	56	5.36	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	3	22	13.64	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	57	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ Sydney: 277 Woodpark Rd, Smithfield NSW 2176 Ph: 02 8784 8555 E:samples.sydney@alsenviro.com
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☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818 Ph:07 4796 0600 E: townsville.environmental@alsenviro.com
☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph. 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

CLIENT:	RCA Australia	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	92 Hill Street, Carrington		
RCA Ref No:	13156a	ALS QUOTE NO.:	SYBQ_400_17
PROJECT MANAGER:	Katy Shaw	CONTACT PH: 0408 467 698	
SAMPLER:	Richie Lamont	SAMPLER MOBILE: 0401 002 912	
COC Emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to:	administrator@rca.com.au + katys@rca.com.au		
Email Invoice to:	as above		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: 3.1 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
R. Lamont	KH		ML
DATE/TIME: 7/9/18	DATE/TIME: 7/9/18 3pm	DATE/TIME:	DATE/TIME: 7/9/18 7:30pm

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S26 (TRH, BTEXN, PAH, 8 metals)	S12 - OCP OPP	Volatile TRH/ BTEXN						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP1 1.0	05/09/2018	Soil	Jar		x	X							
2	TP2 0.3	05/09/2018	Soil	Jar		x								
3	TP2 1.5	05/09/2018	Soil	Jar		x	X							
4	TP3 0.3	05/09/2018	Soil	Jar		x								
5	TP3 1.7	05/09/2018	Soil	Jar		x	X							
6	TP4 1.0	05/09/2018	Soil	Jar		x								
7	TP5 0.3	05/09/2018	Soil	Jar		x	x							
8	TP5 1.6	05/09/2018	Soil	Jar		x								
9	TP6 1.0	05/09/2018	Soil	Jar		x	X							
10	TP7 1.0	05/09/2018	Soil	Jar		x								
11	TP7 1.6	05/09/2018	Soil	Jar		x	X							
12	TP8 0.3	05/09/2018	Soil	Jar		x								
					TOTAL									

LAB OF ORIGIN: NEWCASTLE

Environmental Division Sydney
Work Order Reference
ES1826526
Telephone : +61-2-8784 8555

E-MAILED

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

8-1D

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304 Ph:02 4968 9433 E:samples.newcastle@alsenviro.com
☐ Brisbane: 32 Shand St, Stafford QLD 4053 Ph:07 3243 7222 E:samples.brisbane@alsenviro.com
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☐ Melbourne: 2-4 Westall Rd, Springvale VIC 3171 Ph:03 8549 9600 E: samples.melbourne@alsenviro.com
☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095 Ph: 08 8359 0890 E:adelaide@alsenviro.com
☐ Perth: 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsenviro.com
☐ Launceston: 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

CLIENT:	RCA Australia	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	92 Hill Street, Carrington		
RCA Ref No:	13156a	ALS QUOTE NO.:	SYBQ_400_17
PROJECT MANAGER:	Katy Shaw	CONTACT PH: 0408 467 698	
SAMPLER:	Richie Lamont	SAMPLER MOBILE: 0401 002 912	
COC Emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to:	administrator@rca.com.au + katys@rca.com.au		
Email Invoice to:	as above		

COC SEQUENCE NUMBER (Circle)
COC: 1 (2) 3 4 5 6 7
OF: 1 2 3 (4) 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No (N/A)
Free ice/frozen ice bricks present upon receipt? (Yes) No N/A
Random Sample Temperature on Receipt: 3.1 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
R Lamont	KH		
DATE/TIME: 7/9/18	DATE/TIME: 7/9/18 3pm	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S26 (TRH, BTEXN, PAH, 8 metals)	S12 - OCP OPP	Volatile TRH/ BTEXN						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	TP9 0.3	05/09/2018	Soil	Jar		x	X							
14	TP9 1.5	05/09/2018	Soil	Jar		x								
15	TP10 1.0	05/09/2018	Soil	Jar		x	X							
16	TP11 0.3	05/09/2018	Soil	Jar		x								
17	TP11 1.5	05/09/2018	Soil	Jar		x	X							
18	TP12 1.0	05/09/2018	Soil	Jar		x								
19	TP13 0.3	05/09/2018	Soil	Jar		x	X							
20	TP13 1.0	05/09/2018	Soil	Jar		x								
21	TP14 0.3	05/09/2018	Soil	Jar		x	X							
22	TP14 1.6	05/09/2018	Soil	Jar		x								
23	TP15 1.0	05/09/2018	Soil	Jar		x	X							
24	TP16 0.3	05/09/2018	Soil	Jar		x								
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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CLIENT:	RCA Australia	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE:	92 Hill Street, Carrington		
RCA Ref No:	13156a	ALS QUOTE NO.:	SYBQ_400_17
PROJECT MANAGER:	Katy Shaw	CONTACT PH: 0408 467 698	
SAMPLER:	Richie Lamont	SAMPLER MOBILE: 0401 002 912	
COC Emailed to ALS? (YES / NO)		EDD FORMAT (or default):	
Email Reports to:	administrator@rca.com.au + katys@rca.com.au		
Email Invoice to:	as above		

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: 3.1 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
R Lam	[illegible]		
DATE/TIME: 7/9/18	DATE/TIME: 7/9/18 3pm	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	S26 (TRH, BTEXN, PAH, 8 metals)	S12 - OCP OPP	Volatile TRH/ BTEXN						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	TP17 1.0	05/09/2018	Soil	Jar		x	X							
26	TP18 0.3	05/09/2018	Soil	Jar		x								
27	TP18 1.5	05/09/2018	Soil	Jar		x	X							
28	TP19 1.0	05/09/2018	Soil	Jar		x								
29	TP20 0.3	05/09/2018	Soil	Jar		x	X							
30	TP20 1.5	05/09/2018	Soil	Jar		x								
31	TP21 0.3	05/09/2018	Soil	Jar		x	X							
32	TP22 0.3	05/09/2018	Soil	Jar		x								
33	TP22 1.0	05/09/2018	Soil	Jar		x	X							
34	TP23 1.0	05/09/2018	Soil	Jar		x								
35	TP24 0.3	05/09/2018	Soil	Jar		x	X							
36	TP24 1.0	05/09/2018	Soil	Jar		x								
				TOTAL										

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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☐ **Perth:** 10 Hod Way, Malaga WA 6090 Ph: 08 9209 7655 E. samples.perth@alsenviro.com
☐ **Launceston:** 27 Wellington St, Launceston TAS 7250 Ph: 03 6331 2158 E: launceston@alsenviro.com

CLIENT:	**RCA Australia**	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT **(List due date):** ☐ Non Standard or urgent TAT **(List due date):**
OFFICE:	**92 Hill Street, Carrington**		
RCA Ref No:	**13156a**	**ALS QUOTE NO.:**	**SYBQ_400_17**
PROJECT MANAGER:	**Katy Shaw**	**CONTACT PH: 0408 467 698**	
SAMPLER:	**Richie Lamont**	**SAMPLER MOBILE: 0401 002 912**	
COC Emailed to ALS? (YES / NO)		**EDD FORMAT (or default):**	
Email Reports to:	administrator@rca.com.au + katys@rca.com.au		
Email Invoice to:	as above		

COC SEQUENCE NUMBER (Circle)

COC:	1	2	3	4	5	6	7
OF:	1	2	3	4	5	6	7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free Ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comment:	3.1		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
RLamont	KH		
DATE/TIME: 7/9/18	DATE/TIME: 7/9/18 3pm	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL BOTTLES	S26 (TRH, BTEXN, PAH, 8 metals)	S12 - OCP OPP	Volatile TRH/ BTEXN						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	TP25 0.3	05/09/2018	Soil	Jar		x	X							
38	TP25 1.2	05/09/2018	Soil	Jar		x								
39	TP26 0.3	05/09/2018	Soil	Jar		x								
40	TP26 1.2	05/09/2018	Soil	Jar		x	X							
41	TP27 0.3	05/09/2018	Soil	Jar		x								
42	TP28 1.0	05/09/2018	Soil	Jar		x	X							
43	TS	05/09/2018	Soil	Jar		x		x						
44	TB	05/09/2018	Soil	Jar		x		x						
45	QA6	05/09/2018	Soil	Jar		x	x							
46	QA7	05/09/2018	Soil	Jar		x								
47	TSC													
48	TP4 -0.3	Extra												
					TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1826526**

Client	: **ROBERT CARR & ASSOCIATES P/L**	Laboratory	: Environmental Division Sydney
Contact	: MS KATY SHAW	Contact	: Customer Services ES
Address	: P O BOX 175 CARRINGTON NSW, AUSTRALIA 2294	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: katys@rca.com.au	E-mail	: ALSEnviro.Sydney@alsglobal.com
Telephone	: +61 02 49029200	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 49029299	Facsimile	: +61-2-8784 8500
Project	: 13156A	Page	: 1 of 3
Order number	:	Quote number	: ES2017ROBCAR0004 (SYBQ/400/18)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Richie Lamont		

Dates

Date Samples Received	: 07-Sep-2018 14:53	Issue Date	: 07-Sep-2018
Client Requested Due Date	: 14-Sep-2018	Scheduled Reporting Date	: **14-Sep-2018**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 3.1'C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 48 / 47

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Sample TP4/0.3 was received extra and placed on hold.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-12 OC/OP Pesticides	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES1826526-001	05-Sep-2018 00:00	TP1 1.0		✓	✓		✓
ES1826526-002	05-Sep-2018 00:00	TP2 0.3		✓			✓
ES1826526-003	05-Sep-2018 00:00	TP2 1.5		✓	✓		✓
ES1826526-004	05-Sep-2018 00:00	TP3 0.3		✓			✓
ES1826526-005	05-Sep-2018 00:00	TP3 1.7		✓	✓		✓
ES1826526-006	05-Sep-2018 00:00	TP4 1.0		✓			✓
ES1826526-007	05-Sep-2018 00:00	TP5 0.3		✓	✓		✓
ES1826526-008	05-Sep-2018 00:00	TP5 1.6		✓			✓
ES1826526-009	05-Sep-2018 00:00	TP6 1.0		✓	✓		✓
ES1826526-010	05-Sep-2018 00:00	TP7 1.0		✓			✓
ES1826526-011	05-Sep-2018 00:00	TP7 1.6		✓	✓		✓
ES1826526-012	05-Sep-2018 00:00	TP8 0.3		✓			✓
ES1826526-013	05-Sep-2018 00:00	TP9 0.3		✓	✓		✓
ES1826526-014	05-Sep-2018 00:00	TP9 1.5		✓			✓
ES1826526-015	05-Sep-2018 00:00	TP10 1.0		✓	✓		✓
ES1826526-016	05-Sep-2018 00:00	TP11 0.3		✓			✓
ES1826526-017	05-Sep-2018 00:00	TP11 1.5		✓	✓		✓
ES1826526-018	05-Sep-2018 00:00	TP12 1.0		✓			✓
ES1826526-019	05-Sep-2018 00:00	TP13 0.3		✓	✓		✓
ES1826526-020	05-Sep-2018 00:00	TP13 1.0		✓			✓
ES1826526-021	05-Sep-2018 00:00	TP14 0.3		✓	✓		✓
ES1826526-022	05-Sep-2018 00:00	TP14 1.6		✓			✓
ES1826526-023	05-Sep-2018 00:00	TP15 1.0		✓	✓		✓
ES1826526-024	05-Sep-2018 00:00	TP16 0.3		✓			✓
ES1826526-025	05-Sep-2018 00:00	TP17 1.0		✓	✓		✓
ES1826526-026	05-Sep-2018 00:00	TP18 0.3		✓			✓
ES1826526-027	05-Sep-2018 00:00	TP18 1.5		✓	✓		✓
ES1826526-028	05-Sep-2018 00:00	TP19 1.0		✓			✓
ES1826526-029	05-Sep-2018 00:00	TP20 0.3		✓	✓		✓
ES1826526-030	05-Sep-2018 00:00	TP20 1.5		✓			✓
ES1826526-031	05-Sep-2018 00:00	TP21 0.3		✓	✓		✓
ES1826526-032	05-Sep-2018 00:00	TP22 0.3		✓			✓
ES1826526-033	05-Sep-2018 00:00	TP22 1.0		✓	✓		✓
ES1826526-034	05-Sep-2018 00:00	TP23 1.0		✓			✓
ES1826526-035	05-Sep-2018 00:00	TP24 0.3		✓	✓		✓

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - S-12 OC/OP Pesticides	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-26 8 metals/TRH/BTEXN/PAH
ES1826526-036	05-Sep-2018 00:00	TP24 1.0		✓			✓
ES1826526-037	05-Sep-2018 00:00	TP25 0.3		✓	✓		✓
ES1826526-038	05-Sep-2018 00:00	TP25 1.2		✓			✓
ES1826526-039	05-Sep-2018 00:00	TP26 0.3		✓			✓
ES1826526-040	05-Sep-2018 00:00	TP26 1.2		✓	✓		✓
ES1826526-041	05-Sep-2018 00:00	TP27 0.3		✓			✓
ES1826526-042	05-Sep-2018 00:00	TP28 1.0		✓	✓		✓
ES1826526-043	05-Sep-2018 00:00	TS				✓	
ES1826526-044	05-Sep-2018 00:00	TB				✓	
ES1826526-045	05-Sep-2018 00:00	QA6		✓	✓		✓
ES1826526-046	05-Sep-2018 00:00	QA7		✓			✓
ES1826526-047	05-Sep-2018 00:00	TSC				✓	
ES1826526-048	05-Sep-2018 00:00	TP4 0.3	✓				

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ALL INVOICES

- *AU Certificate of Analysis - NATA (COA) Email administrator@rca.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email administrator@rca.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email administrator@rca.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email administrator@rca.com.au
- A4 - AU Tax Invoice (INV) Email administrator@rca.com.au
- Chain of Custody (CoC) (COC) Email administrator@rca.com.au
- EDI Format - ENMRG (ENMRG) Email administrator@rca.com.au
- EDI Format - ESDAT (ESDAT) Email administrator@rca.com.au

KATY SHAW

- *AU Certificate of Analysis - NATA (COA) Email katys@rca.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email katys@rca.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email katys@rca.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email katys@rca.com.au
- A4 - AU Tax Invoice (INV) Email katys@rca.com.au
- Chain of Custody (CoC) (COC) Email katys@rca.com.au
- EDI Format - ENMRG (ENMRG) Email katys@rca.com.au
- EDI Format - ESDAT (ESDAT) Email katys@rca.com.au

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30 years Testing For Life 1987–2017
Celebrating 30 years Testing and Protecting Human Health

Certificate of Analysis

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.

Robert Carr and Associates Pty Ltd
PO Box 175
Carrington
NSW 2294

Attention: **- cc ALL REPORTS & INVOICES**

Report **616699-S**
Project name
Received Date Sep 10, 2018

Client Sample ID			**QA1**	**QA3**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M18-Se11467**	**M18-Se11468**
Date Sampled			**Sep 05, 2018**	**Sep 05, 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	%	95	69
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

Client Sample ID			QA1	QA3
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			M18-Se11467	M18-Se11468
Date Sampled			Sep 05, 2018	Sep 05, 2018
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
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	%	89	101
p-Terphenyl-d14 (surr.)	1	%	76	100
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05
Toxaphene	1	mg/kg	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1
Dibutylchlorendate (surr.)	1	%	-	133
Tetrachloro-m-xylene (surr.)	1	%	-	137
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	-	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2
Coumaphos	2	mg/kg	-	< 2
Demeton-S	0.2	mg/kg	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2

Client Sample ID			QA1	QA3
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			M18-Se11467	M18-Se11468
Date Sampled			Sep 05, 2018	Sep 05, 2018
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Disulfoton	0.2	mg/kg	-	< 0.2
EPN	0.2	mg/kg	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2
Malathion	0.2	mg/kg	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2
Monocrotophos	2	mg/kg	-	< 2
Naled	0.2	mg/kg	-	< 0.2
Omethoate	2	mg/kg	-	< 2
Phorate	0.2	mg/kg	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	119
Heavy Metals				
Arsenic	2	mg/kg	5.8	4.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	51	42
Copper	5	mg/kg	< 5	< 5
Lead	5	mg/kg	14	15
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	8.5	6.1
Zinc	5	mg/kg	9.9	12
% Moisture	1	%	14	17

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
Eurofins | mgt Suite B7			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Sep 11, 2018	14 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Sep 11, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 11, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 11, 2018	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Sep 11, 2018	14 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Sep 11, 2018	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins | mgt Suite B14			
Organochlorine Pesticides	Melbourne	Sep 11, 2018	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Sep 11, 2018	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
% Moisture	Melbourne	Sep 10, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name:	Robert Carr and Associates Pty Ltd	**Order No.:**		**Received:**	Sep 10, 2018 9:19 AM
Address:	PO Box 175 Carrington NSW 2294	**Report #:**	616699	**Due:**	Sep 17, 2018
		Phone:	02 4902 9200	**Priority:**	5 Day
		Fax:	02 4902 9299	**Contact Name:**	- cc ALL REPORTS & INVOICES
Project Name:					

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Eurofins | mgt Suite B14	Moisture Set	Eurofins | mgt Suite B7
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	QA1	Sep 05, 2018		Soil	M18-Se11467		X	X
2	QA3	Sep 05, 2018		Soil	M18-Se11468	X	X	X
Test Counts						1	2	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.

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							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
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							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	104			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	82			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	87			70-130	Pass	
m&p-Xylenes	%	81			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	88			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	
TRH >C10-C16	%	122			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	88			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	93			70-130	Pass	
Benz(a)anthracene	%	72			70-130	Pass	
Benzo(a)pyrene	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	%	71			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	86			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	88			70-130	Pass	
Fluorene	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
Phenanthrene	%	92			70-130	Pass	
Pyrene	%	88			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	111			70-130	Pass	
4.4'-DDE	%	118			70-130	Pass	
4.4'-DDT	%	120			70-130	Pass	
a-BHC	%	92			70-130	Pass	
Aldrin	%	101			70-130	Pass	
b-BHC	%	104			70-130	Pass	
d-BHC	%	99			70-130	Pass	
Dieldrin	%	113			70-130	Pass	
Endosulfan I	%	106			70-130	Pass	
Endosulfan II	%	110			70-130	Pass	
Endosulfan sulphate	%	128			70-130	Pass	
Endrin	%	122			70-130	Pass	
Endrin aldehyde	%	117			70-130	Pass	
Endrin ketone	%	120			70-130	Pass	
g-BHC (Lindane)	%	97			70-130	Pass	
Heptachlor	%	99			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide			%	101			70-130	Pass	
Hexachlorobenzene			%	93			70-130	Pass	
Methoxychlor			%	117			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon			%	129			70-130	Pass	
Dimethoate			%	78			70-130	Pass	
Ethion			%	118			70-130	Pass	
Fenitrothion			%	104			70-130	Pass	
Methyl parathion			%	113			70-130	Pass	
Mevinphos			%	122			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	104			80-120	Pass	
Cadmium			%	100			80-120	Pass	
Chromium			%	111			80-120	Pass	
Copper			%	114			80-120	Pass	
Lead			%	115			80-120	Pass	
Mercury			%	111			75-125	Pass	
Nickel			%	110			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 - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B18-Se13665	NCP	%	119			70-130	Pass	
TRH C10-C14	M18-Se09971	NCP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B18-Se13665	NCP	%	79			70-130	Pass	
Toluene	B18-Se13665	NCP	%	118			70-130	Pass	
Ethylbenzene	B18-Se13665	NCP	%	118			70-130	Pass	
m&p-Xylenes	B18-Se13665	NCP	%	117			70-130	Pass	
o-Xylene	B18-Se13665	NCP	%	115			70-130	Pass	
Xylenes - Total	B18-Se13665	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	B18-Se13665	NCP	%	108			70-130	Pass	
TRH C6-C10	B18-Se13665	NCP	%	114			70-130	Pass	
TRH >C10-C16	M18-Se09971	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M18-Se10310	NCP	%	76			70-130	Pass	
Acenaphthylene	M18-Se10310	NCP	%	82			70-130	Pass	
Anthracene	M18-Se10310	NCP	%	81			70-130	Pass	
Benz(a)anthracene	M18-Se10310	NCP	%	85			70-130	Pass	
Benzo(a)pyrene	M18-Se10310	NCP	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	M18-Se10310	NCP	%	82			70-130	Pass	
Benzo(g.h.i)perylene	M18-Se10310	NCP	%	91			70-130	Pass	
Benzo(k)fluoranthene	M18-Se10310	NCP	%	92			70-130	Pass	
Chrysene	M18-Se10310	NCP	%	95			70-130	Pass	
Dibenz(a.h)anthracene	M18-Se10310	NCP	%	98			70-130	Pass	
Fluoranthene	M18-Se10310	NCP	%	106			70-130	Pass	
Fluorene	M18-Se10310	NCP	%	78			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M18-Se10310	NCP	%	91			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	M18-Se10310	NCP	%	80			70-130	Pass	
Phenanthrene	M18-Se10310	NCP	%	83			70-130	Pass	
Pyrene	M18-Se10310	NCP	%	107			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M18-Se12840	NCP	%	102			75-125	Pass	
Cadmium	M18-Se12840	NCP	%	104			75-125	Pass	
Chromium	M18-Se12792	NCP	%	89			75-125	Pass	
Copper	M18-Se12840	NCP	%	81			75-125	Pass	
Lead	M18-Se12792	NCP	%	96			75-125	Pass	
Mercury	M18-Se12840	NCP	%	117			70-130	Pass	
Nickel	M18-Se12840	NCP	%	100			75-125	Pass	
Zinc	M18-Se12792	NCP	%	90			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	S18-Se08459	NCP	%	108			70-130	Pass	
4.4'-DDE	S18-Se08459	NCP	%	113			70-130	Pass	
4.4'-DDT	S18-Se08459	NCP	%	123			70-130	Pass	
a-BHC	S18-Se08459	NCP	%	104			70-130	Pass	
Aldrin	M18-Se10258	NCP	%	105			70-130	Pass	
b-BHC	S18-Se08459	NCP	%	102			70-130	Pass	
d-BHC	S18-Se08459	NCP	%	104			70-130	Pass	
Dieldrin	S18-Se08459	NCP	%	120			70-130	Pass	
Endosulfan I	S18-Se08459	NCP	%	105			70-130	Pass	
Endosulfan II	S18-Se08459	NCP	%	107			70-130	Pass	
Endosulfan sulphate	S18-Se08459	NCP	%	113			70-130	Pass	
Endrin	S18-Se08459	NCP	%	124			70-130	Pass	
Endrin aldehyde	S18-Se08459	NCP	%	92			70-130	Pass	
Endrin ketone	S18-Se08459	NCP	%	96			70-130	Pass	
g-BHC (Lindane)	S18-Se08459	NCP	%	106			70-130	Pass	
Heptachlor	S18-Se08459	NCP	%	114			70-130	Pass	
Heptachlor epoxide	S18-Se08459	NCP	%	104			70-130	Pass	
Hexachlorobenzene	S18-Se08459	NCP	%	107			70-130	Pass	
Methoxychlor	S18-Se08459	NCP	%	121			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M18-Se10258	NCP	%	130			70-130	Pass	
Dimethoate	M18-Se10258	NCP	%	88			70-130	Pass	
Ethion	M18-Se10258	NCP	%	127			70-130	Pass	
Fenitrothion	M18-Se10258	NCP	%	106			70-130	Pass	
Methyl parathion	M18-Se10258	NCP	%	85			70-130	Pass	
Mevinphos	M18-Se10258	NCP	%	97			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B18-Se13664	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S18-Se08782	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S18-Se08782	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S18-Se08782	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B18-Se13664	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B18-Se13664	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B18-Se13664	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B18-Se13664	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B18-Se13664	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	B18-Se13664	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B18-Se13664	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B18-Se13664	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S18-Se08782	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M18-Se14463	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M18-Se12840	NCP	mg/kg	12	12	<1	30%	Pass	
Cadmium	M18-Se12840	NCP	mg/kg	0.6	0.6	1.0	30%	Pass	
Chromium	M18-Se12840	NCP	mg/kg	310	300	1.0	30%	Pass	
Copper	M18-Se12840	NCP	mg/kg	76	77	1.0	30%	Pass	
Lead	M18-Se12840	NCP	mg/kg	230	230	1.0	30%	Pass	
Mercury	M18-Se12840	NCP	mg/kg	0.8	0.8	<1	30%	Pass	
Nickel	M18-Se12840	NCP	mg/kg	73	74	1.0	30%	Pass	
Zinc	M18-Se12840	NCP	mg/kg	490	500	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M18-Se11409	NCP	%	33	35	5.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M18-Se09990	NCP	mg/kg	0.1	0.1	14	30%	Pass	
4.4'-DDD	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endosulfan II	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M18-Se09990	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M18-Se09990	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M18-Se10381	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M18-Se10381	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M18-Se10381	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M18-Se10381	NCP	mg/kg	< 0.2	< 0.2	<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

Andrew Black	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.

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☐ **Sydney**
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2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : RCA Australia	**Contact Name:**	**Purchase Order :**	**COC Number :**
Office Address : 92 Hill St Carrington NSW	**Project Manager :**	**PROJECT Number :**	**Eurofins | mgt quote ID :**
	Email for results :	**PROJECT Name :**	**Data output format:**

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

	Sample ID	Date	Matrix	Combo B7: TRH, BTEXN, PAH, Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Combo B14 OCP OPP
1	QA1	5/09/18	Soil	x	
2	QA3	5/09/18	Soil	x	x
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar		Sample comments:

Relinquished By:	Laboratory Staff Received By:	Laboratory Staff Received By:	Turn around time	Method Of Shipment	Temperature on arrival:
Date & Time:: 7/9/18	Date & Time: 7/9/18 2-40PM	Date & Time: 10/9/18 9:19 AM	1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☑ 10 DAY ☐ Other:	☑ Courier ☐ Hand Delivered ☐ Postal	Report number: 616699
Signature:	Signature: SW.	Signature:		Courier Consignment # :	

eurofins | mgt

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Robert Carr and Associates Pty Ltd**
Contact name:	- cc ALL REPORTS & INVOICES
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Sep 10, 2018 9:19 AM
Eurofins | mgt reference:	**616699**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 16.2 degrees Celsius.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☒ 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:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to - cc ALL REPORTS & INVOICES - administrator@rca.com.au.

Note: A copy of these results will also be delivered to the general Robert Carr and Associates Pty Ltd email address.

Appendix E

Test pit logs

ENVIRONMENTAL TEST PIT LOG
TP1

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel, some concrete and trace of glass	1.9	M		FILL
		1.00m D + QA1 1.10m	1.0		Becoming brown at 0.8m	2.7			
		1.50m D 1.60m	1.5						
			2.0		TEST PIT TP1 TERMINATED AT 1.60 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP2

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, brown mottled black, with angular and sub angular gravel, rootlets		M		FILL
					Tree stump at 0.7m				
		0.30m							
		D + QA2 0.40m				3			
			0.5						
					Becoming orange at 0.8m				
		1.00m	1.0						
		D 1.10m				5.9			
		1.50m	1.5						
		D 1.60m				2			
					TEST PIT TP2 TERMINATED AT 1.60 m				
			2.0						

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP3

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown and black, with sub angular and angular gravel, rootlets, bark, trace of geofabric and cobbles	5.9	M		FILL
		1.00m D 1.10m	1.0			1.7			
		1.70m D 1.80m	1.5		Timber at 1.7m	1.8			
			2.0		TEST PIT TP3 TERMINATED AT 1.80 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP4

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown, with angular and sub angular gravel, trace of cobbles	2.6	M		FILL
		1.00m D 1.10m	1.0		Becoming white mottled red at 1.2m	1.9			
		1.80m D 1.90m	1.5			1.1			
			2.0		TEST PIT TP4 TERMINATED AT 1.90 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP5

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D + QA3 0.40m	0.5		FILL, Sandy CLAY, brown mottled white, with angular and sub angular gravel, rootlets and a trace of geofabric Concrete at 0.7m	7.5	M		FILL
		1.00m D 1.10m	1.0			2.3			
		1.60m D 1.70m	1.5			1.7			
			2.0		TEST PIT TP5 TERMINATED AT 1.70 m				

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ENVIRONMENTAL TEST PIT LOG
TP6

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled red and white, with angular and sub angular gravel and cobbles	1.3	M		FILL
		1.00m D 1.10m	1.0			2			
		1.50m D 1.60m	1.5			2.7			
			2.0		TEST PIT TP6 TERMINATED AT 1.60 m				

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ENVIRONMENTAL TEST PIT LOG
TP7

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, brown, with some sub angular and angular gravel		M		FILL
		0.30m							
		D 0.40m				1.4			
			0.5						
					Reo bar at 0.7m				
					Concrete piece at 0.9m				
		1.00m	1.0						
		D 1.10m				3.6			
			1.5						
		1.60m							
		D 1.70m			Concrete piece at 1.6m	3.7			
					TEST PIT TP7 TERMINATED AT 1.70 m				
			2.0						

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP8

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown, with angular and sub angular gravel	2.3	M		FILL
		1.00m D 1.10m	1.0			2.3			
		1.70m D 1.80m	1.5			1.5			
			2.0		TEST PIT TP8 TERMINATED AT 1.80 m				

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ENVIRONMENTAL TEST PIT LOG
TP9

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown, with angular and sub angular gravel	2.4	M		FILL
		1.00m D 1.10m	1.0			3			
		1.50m D 1.60m	1.5			1.5			
			2.0		TEST PIT TP9 TERMINATED AT 1.60 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP10

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel		M		FILL
		0.30m							
		D 0.40m				2.8			
			0.5						
		1.00m	1.0						
		D 1.10m				2.5			
			1.5						
		1.90m							
		D 2.00m	2.0			1.8			
					TEST PIT TP10 TERMINATED AT 2.00 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG

TP11

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown, with sub angular and angular gravel, trace of plastic	2.5	M		FILL
		1.00m D 1.10m	1.0			2.4			
		1.50m D 1.60m	1.5			1.8			
			2.0		TEST PIT TP11 TERMINATED AT 1.60 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

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ENVIRONMENTAL TEST PIT LOG
TP12

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with angular gravel	3.1	M		FILL
		1.00m D + QA4 1.10m	1.0			2.8			
		1.70m D 1.80m	1.5			1.7			
			2.0		TEST PIT TP12 TERMINATED AT 1.80 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

RCA_LIB_08.1_RCA_STANDARD.GLB Log RCA TEST PIT LOG 13156A_TESTPITS.GPJ <<DrawingFile>> 24/09/2018 15:38 Produced by gINT Professional, Developed by Datgel

ENVIRONMENTAL TEST PIT LOG
TP13

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	2.6	M		FILL
		1.00m D 1.10m	1.0			2.1			
		1.70m D 1.80m	1.5			1.5			
			2.0		TEST PIT TP13 TERMINATED AT 1.80 m				

LOGGED: RL | CHECKED: KS | DATE: 21/09/2018

RCA_LIB_08.1_RCA_STANDARD.GLB Log RCA TEST PIT LOG 13156A_TESTPITS.GPJ <<DrawingFile>> 24/09/2018 15:38 Produced by gINT Professional, Developed by Datgel

ENVIRONMENTAL TEST PIT LOG
TP14

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m			FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel PVC pipe at 0.4m	3.8	M		FILL
			0.5						
		1.00m D 1.10m	1.0			2.9			
			1.5						
		1.60m D 1.70m				1.5			
					TEST PIT TP14 TERMINATED AT 1.70 m				
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP15

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange with sub angular and angular gravel	2.3	M		FILL
		1.00m D 1.10m	1.0			2.8			
		1.50m D 1.60m	1.5			1.3			
			2.0		TEST PIT TP15 TERMINATED AT 1.60 m				

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ENVIRONMENTAL TEST PIT LOG
TP16

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	2.8	M		FILL
		1.00m D 1.10m	1.0			2.5			
		1.60m D 1.70m	1.5			1.4			
			2.0		TEST PIT TP16 TERMINATED AT 1.70 m				

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ENVIRONMENTAL TEST PIT LOG
TP17

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	2.9	M		FILL
		1.00m D 1.10m	1.0			3			
		1.80m D 1.90m	1.5			1.5			
			2.0		TEST PIT TP17 TERMINATED AT 1.90 m				

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ENVIRONMENTAL TEST PIT LOG
TP18

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D + QA7 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	3	M		FILL
		1.00m D 1.10m	1.0			2.6			
		1.50m D 1.60m	1.5			1.5			
			2.0		TEST PIT TP18 TERMINATED AT 1.60 m				

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ENVIRONMENTAL TEST PIT LOG
TP19

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	2.8	M		FILL
		1.00m D 1.10m	1.0		Irrigation pipe at 0.8m	2.5			
		1.70m D 1.80m	1.5			1.4			
			2.0		TEST PIT TP19 TERMINATED AT 1.80 m				

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ENVIRONMENTAL TEST PIT LOG
TP20

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 05/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D + QA5 0.40m	0.5		FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	3	M		FILL
		1.00m D 1.10m	1.0			2.6			
		1.50m D 1.60m	1.5			1.5			
			2.0		TEST PIT TP20 TERMINATED AT 1.60 m				

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ENVIRONMENTAL TEST PIT LOG
TP21

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m 0.60m D 0.70m	0.5		FILL, Sandy CLAY, brown, with trace sub angular and angular gravel	5.2 3.6	M		FILL
			0.70		TEST PIT TP21 TERMINATED AT 0.70 m				
			1.0						
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP22

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, brown		M		FILL
			0.10		FILL, Clayey SAND, light grey				
			0.20		FILL, Clayey SAND, brown, with rootlets and plastic bottle, some sub rounded and sub angular gravel and cobbles				
		0.30m							
		D 0.40m				16.8			
			0.5						
		1.00m	1.0						
		D 1.10m				26.3			
			1.10		TEST PIT TP22 TERMINATED AT 1.10 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP23

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, SAND, light grey and brown, with rootlets, trace rounded gravel	14.9	M		FILL
		1.00m D 1.10m	1.0		FILL, Clayey SAND, light grey and brown	64.6			
			1.10		TEST PIT TP23 TERMINATED AT 1.10 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP24

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information					
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, brown, with rootlets, sub angular and angular gravel		M		FILL
					Asphalt pieces at 0.2m				
		0.30m			Becoming brown mottled orange at 0.3m				
		D + QA6 0.40m				19.3			
			0.5						
					Becoming orange at 0.8m Concrete piece at 0.8m				
		1.00m	1.0						
		D 1.10m				16.9			
			1.10		TEST PIT TP24 TERMINATED AT 1.10 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP25

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m			FILL, Clayey SAND, brown mottled orange, with rootlets, angular to sub angular gravel, trace asphalt and concrete pieces throughout	5.1	M		FILL
			0.5		Becoming light grey at 0.5m				
					Terracotta pipe piece at 0.8m				
		1.00m D 1.10m	1.0			9.1			
		1.20m D 1.30m				3.3			
			1.30		TEST PIT TP25 TERMINATED AT 1.30 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP26

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Sandy CLAY, with rootlets, sub angular and angular gravel		M		FILL
		0.30m							
		D 0.40m				4.8			
			0.5		Concrete at 0.5m				
					Terracotta pipe pieces and continuing throughout from 0.6m				
			0.70		FILL, Clayey SAND, light grey				
					Plastic at 0.8m				
		1.00m	1.0						
		D 1.10m				5.6			
					Asphalt at 1.1m				
		1.20m							
		D 1.30m				3			
			1.30		TEST PIT TP26 TERMINATED AT 1.30 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP27

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
					FILL, Clayey SAND, brown and grey, with rootlets, sub angular and angular gravel		M		FILL
					Asphalt and concrete pieces at 0.2m				
		0.30m							
		D 0.40m				2.7			
			0.5						
		1.00m	1.0						
		D + QA8 1.10m				3.7			
		D 1.20m				0.9			
			1.20		TEST PIT TP27 TERMINATED AT 1.20 m				
			1.5						
			2.0						

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ENVIRONMENTAL TEST PIT LOG
TP28

RCA AUSTRALIA
GEOTECHNICAL • ENVIRONMENTAL

PROJECT No: 13156a
CLIENT: Diocese of Maitland Newcastle
PROJECT: RAP and Additional Works
LOCATION: 507 Medowie Road, Medowie

DATE: 06/09/2018
SURFACE RL:
COORDS:
EXCAVATION METHOD: 5t Backhoe

Test Pit Information				Field Material Information						
WATER	FIELD TEST	SAMPLE	DEPTH (m)	GRAPHIC LOG	DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents) (ROCK NAME; grain size, colour, minor constituents)	PID (ppm)	MOISTURE/ WEATHERING	CONSISTENCY/ RELATIVE DENSITY/ STRENGTH	STRUCTURE/AESTHETICS AND ADDITIONAL OBSERVATIONS
		0.30m D 0.40m	0.5		FILL, Clayey SAND, brown, with rootlets, sub angular and angular gravel, terracotta pipe, trace asphalt	0.9	M		FILL
		1.00m D 1.10m	1.0			5			
			1.10		TEST PIT TP28 TERMINATED AT 1.10 m				
			1.5						
			2.0						

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Appendix F

Summary of Results

Sample Identification	PQL	Guideline [A]				TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7	TP4 1.0	TP5 0.3	TP5 1.6
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Date		SAND 0-<1m	Coarse	Coarse		5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile						FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled black, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, orange, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, brown and black, with sub angular and angular gravel, rootlets, bark	FILL, Sandy CLAY, brown and black, with sub angular and angular gravel, rootlets, bark, trace of geofabric, cobbles and timber	FILL, Sandy CLAY, brown, with angular and sub angular gravel, trace of cobbles	FILL, Sandy CLAY, brown mottled white, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, brown mottled white, with angular and sub angular gravel, rootlets
Dominant Stratum [C]						SAND	SAND	SAND	SAND	SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)													
Benzene	0.2	0.5	50		100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Polycyclic Aromatic Hydrocarbons (PAH)													
Naphthalene	1	3	170		1400	<1	<1	<1	<1	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)													
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	<100	<100	<100	<100	<100	130
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	<100	<100	<100	<100	190
F1	10	45	180			<10	<10	<10	<10	<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50	<50	<50	<50	<50

All results are in units of mg/kg.

Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

[A] ASC NEPM 1999 (amended April 2013) Vapour Based Health Screening Levels (HSL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Screening Levels (ESL) URPOS (Urban Residential and Public Open Space)

[A] ASC NEPM 1999 (amended April 2013) Management Limits (ML) Sensitive Sites (Residential, open space)

[A] CRC Care Technical Report 10, September 2011 Direct Contact (DC) Health Screening Levels 'A' (Residential)

[B] 0 used to allow flexibity in the use of the material as criteria are based on depth. Sample depth is referrred to in Sample Identification, refer to the logs.

[C] Note that this is a generalisation for the purpose of comparing to the HSL criteria. Where two strata represented, most conservative criterion used

NL designates 'Not Limiting' indicating that the pore water concentration required to constitute a vapour risk is higher than the solubility capacity for that compound based on a petroleum mixture. Vapour is therefore not a risk for this compound.

Results for TRH have been compared to TPH guidelines.

Presented ESL for naphthalene is an Ecological Investigation Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

ESL for TRH >C_{16}-C_{34} and >C_{34}-C_{40} are low reliability

Results shown in **BOLD** are in excess of the vapour based HSL

Results shown in shading are >250% of the vapour based HSL

Results shown in underline are in excess of the ESL

Results shown in *italics* are in excess of the management limit

Results shown in patterned cells are in excess of the direct contact HSL

Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]				TP6 1.0	TP7 1.0	TP7 1.6	TP8 0.3	TP9 0.3	TP9 1.5	TP10 1.0	TP11 0.3
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Date		SAND 0-<1m	Coarse	Coarse		5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile						FILL, Sandy CLAY, brown mottled red and white, with angular and sub angular gravel and cobbles	FILL, Sandy CLAY, brown, with some sub angular and angular gravel, concrete	FILL, Sandy CLAY, brown, with some sub angular and angular gravel, concrete	FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown, with sub angular and angular gravel
Dominant Stratum [C]						SAND	SAND	SAND	SAND	SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)													
Benzene	0.2	0.5	50		100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Polycyclic Aromatic Hydrocarbons (PAH)													
Naphthalene	1	3	170		1400	<1	<1	<1	<1	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)													
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	<100	<100	<100	<100	<100	<100
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	<100	<100	<100	<100	<100
F1	10	45	180			<10	<10	<10	<10	<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50	<50	<50	<50	<50

All results are in units of mg/kg.

Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

[A] ASC NEPM 1999 (amended April 2013) Vapour Based Health Screening Levels (HSL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Screening Levels (ESL) URPOS (Urban Residential and Public Open Space)

[A] ASC NEPM 1999 (amended April 2013) Management Limits (ML) Sensitive Sites (Residential, open space)

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[B] 0 used to allow flexibity in the use of the material as criteria are based on depth. Sample depth is referrred to in Sample Identification, refer to the logs.

[C] Note that this is a generalisation for the purpose of comparing to the HSL criteria. Where two strata represented, most conservative criterion used

NL designates 'Not Limiting' indicating that the pore water concentration required to constitute a vapour risk is higher than the solubility capacity for that compound based on a petroleum mixture. Vapour is therefore not a risk for this compound.

Results for TRH have been compared to TPH guidelines.

Presented ESL for naphthalene is an Ecological Investigation Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

ESL for TRH >C_{16}-C_{34} and >C_{34}-C_{40} are low reliability

Results shown in **BOLD** are in excess of the vapour based HSL

Results shown in shading are >250% of the vapour based HSL

Results shown in underline are in excess of the ESL

Results shown in *italics* are in excess of the management limit

Results shown in patterned cells are in excess of the direct contact HSL

Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]				TP11 1.5	TP12 1.0	TP13 0.3	TP13 1.0	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Date		SAND 0-<1m	Coarse	Coarse		5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile						FILL, Sandy CLAY, brown, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with angular gravel	FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel
Dominant Stratum [C]						SAND	SAND	SAND	SAND	SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)													
Benzene	0.2	0.5	50		100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Polycyclic Aromatic Hydrocarbons (PAH)													
Naphthalene	1	3	170		1400	<1	<1	<1	<1	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)													
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	<100	<100	<100	<100	<100	<100
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	<100	<100	<100	<100	<100
F1	10	45	180			<10	<10	<10	<10	<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50	<50	<50	<50	<50

All results are in units of mg/kg.

Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

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Results shown in *italics* are in excess of the management limit

Results shown in patterned cells are in excess of the direct contact HSL

Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]				TP17 1.0	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.00	0.00	0.00	0.00	0.00	0.00
Date		SAND 0-<1m	Coarse	Coarse		5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile						FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel
Dominant Stratum [C]						SAND	SAND	SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)											
Benzene	0.2	0.5	50		100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5	0.5	0.5
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Naphthalene	1	3	170		1400	<1	<1	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)											
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	<100	<100	<100	<100
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	<100	<100	<100
F1	10	45	180			<10	<10	<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50	<50	<50

All results are in units of mg/kg.

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PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

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Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]		TP1 1.0	TP2 0.3	TP2 1.5	TP3 0.3	TP3 1.7	TP4 1.0
Sample Depth (m) [B]		HIL 'A'	EIL URPOS	1.00	0.30	1.50	0.30	1.70	1.00
Date				5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile				FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled black, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, orange, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, brown and black, with sub angular and angular gravel, rootlets, bar	FILL, Sandy CLAY, brown and black, with sub angular and angular gravel, rootlets, bark	FILL, Sandy CLAY, brown, with angular and sub angular gravel, trace of cobbles
Sample Purpose				Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by				RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	0.5		170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(j)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	0.5		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carcinogenic PAH (B(a)P equivalent)	1.21	3		0.605	0.605	0.605	0.605	0.605	0.605
Sum of reported PAH	8	300		4	4	4	4	4	4
Metals									
Arsenic	5	100	100	<5	<5	<5	<5	<5	<5
Cadmium	1	20		<1	<1	<1	<1	<1	<1
Chromium	2	100	190	29	13	42	36	49	36
Copper	5	6000	280	<5	<5	<5	<5	<5	<5
Mercury	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	300	1100	9	10	9	14	7	10
Nickel	2	400	30	3	<2	2	16	3	4
Zinc	5	7400	230	7	<5	<5	<5	<5	13
Organochlorine Pesticides (OCP)									
Chlordane	0.05	50		<0.05	---	<0.05	---	<0.05	---
DDD	0.05			<0.05	---	<0.05	---	<0.05	---
DDE	0.05			<0.05	---	<0.05	---	<0.05	---
DDT	0.2		180	<0.2	---	<0.2	---	<0.2	---
alpha-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Aldrin	0.05			<0.05	---	<0.05	---	<0.05	---
b-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
d-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Dieldrin	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 1	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 2	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan sulfate	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin	0.05	10		<0.05	---	<0.05	---	<0.05	---
Endrin Aldehyde	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin Ketone	0.05			<0.05	---	<0.05	---	<0.05	---
g-BHC (Lindane)	0.05			<0.05	---	<0.05	---	<0.05	---
Heptachlor	0.05	6		<0.05	---	<0.05	---	<0.05	---
Heptachlor epoxide	0.05			<0.05	---	<0.05	---	<0.05	---
HCB	0.05	10		<0.05	---	<0.05	---	<0.05	---
Methoxychlor	0.2	300		<0.2	---	<0.2	---	<0.2	---
DDT+DDD+DDE	0.3	240		0.15	---	0.15	---	0.15	---
Aldrin + Dieldrin	0.1	6		0.05	---	0.05	---	0.05	---
Endosulfan	0.1	270		0.05	---	0.05	---	0.05	---
Organophosphorous Pesticides (OPP)									
Dichlorvos	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorpyrifos (total)	0.1	160		<0.01	---	<0.01	---	<0.01	---
Demeton-S-methyl	0.05			<0.05	---	<0.05	---	<0.05	---
Monocrotophos	0.2			<0.2	---	<0.2	---	<0.2	---
Dimethoate	0.05			<0.05	---	<0.05	---	<0.05	---
Diazinon	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion-methyl	0.2			<0.2	---	<0.2	---	<0.2	---
Malathion	0.05			<0.05	---	<0.05	---	<0.05	---
Fenthion	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion	0.2			<0.2	---	<0.2	---	<0.2	---
Pirimphos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorfenvinphos	0.05			<0.05	---	<0.05	---	<0.05	---
Bromophos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Fenamiphos	0.05			<0.05	---	<0.05	---	<0.05	---
Prothiofos	0.05			<0.05	---	<0.05	---	<0.05	---
Ethion	0.05			<0.05	---	<0.05	---	<0.05	---
Carbophenothion	0.05			<0.05	---	<0.05	---	<0.05	---
Azinphos Methyl	0.05			<0.05	---	<0.05	---	<0.05	---

All results are in units of mg/kg. Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

[A] ASC NEPM 1999 (amended April 2013) Health Investigation Levels (HIL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Investigation Levels (EIL) URPOS (Urban Residential and Public Open Space)

[B] Start of sample, generally over a 0.1m interval. Refer to logs for further details

The Carcinogenic PAH value is calculated by multiplying the concentration of each of the 8 carcinogenic PAH compounds by its B(a)P toxic equivalence factor and summing these products.

HIL for Chromium are for Chromium VI

Presented ecological value for benzo(a)pyrene is a low reliability Ecological Screening Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

EIL for Naphthalene are for fresh (<2years) Naphthalene

EIL for Arsenic are for aged (>2years) Arsenic

EIL for Chromium are the added contaminant limit for aged (>2years) Chromium III in soils of 1% clay, the most conservative of the criteria.

EIL for Copper are the added contaminant limit for aged (>2years) Copper in soils of pH 6.5.

EIL for Lead are the added contaminant limit for aged (>2years) Lead.

EIL for Nickel are the added contaminant limit for aged (>2years) Nickel in soils of 5% CEC the most conservative of the criteria.

EIL for Zinc are the added contaminant limit for aged (>2years) Zinc in soils of 5% CEC and pH of 6.5, the most conservative of the criteria at pH 6.5.

EIL for DDT are for fresh (<2years) DDT

Results shown in **BOLD** are in excess of the HIL

Results shown in shading are >250% of the HIL

Results shown in underline are in excess of EIL

Where summation required (PAH, OCP) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]		TP5 0.3	TP5 1.6	TP6 1.0	TP7 1.0	TP7 1.6	TP8 0.3
Sample Depth (m) [B]		HIL 'A'	EIL URPOS	0.30	1.60	1.00	1.00	1.60	0.30
Date				5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile				FILL, Sandy CLAY, brown mottled white, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, brown mottled white, with angular and sub angular gravel, rootlets	FILL, Sandy CLAY, brown mottled red and white, with angular and sub angular gravel and cobbles	FILL, Sandy CLAY, brown, with some sub angular and angular gravel	FILL, Sandy CLAY, brown, with some sub angular and angular gravel	FILL, Sandy CLAY, brown, with angular and sub angular gravel
Sample Purpose				Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by				RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	0.5		170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(j)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	0.5		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carcinogenic PAH (B(a)P equivalent)	1.21	3		0.605	0.605	0.605	0.605	0.605	0.605
Sum of reported PAH	8	300		4	4	4	4	4	4
Metals									
Arsenic	5	100	100	<5	<5	<5	<5	<5	<5
Cadmium	1	20		<1	<1	<1	<1	<1	<1
Chromium	2	100	190	33	54	14	49	80	29
Copper	5	6000	280	<5	<5	<5	<5	<5	<5
Mercury	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	300	1100	10	12	5	11	8	8
Nickel	2	400	30	3	3	<2	4	2	4
Zinc	5	7400	230	8	16	<5	8	<5	7
Organochlorine Pesticides (OCP)									
Chlordane	0.05	50		<0.05	---	<0.05	---	<0.05	---
DDD	0.05			<0.05	---	<0.05	---	<0.05	---
DDE	0.05			<0.05	---	<0.05	---	<0.05	---
DDT	0.2		180	<0.2	---	<0.2	---	<0.2	---
alpha-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Aldrin	0.05			<0.05	---	<0.05	---	<0.05	---
b-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
d-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Dieldrin	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 1	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 2	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan sulfate	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin	0.05	10		<0.05	---	<0.05	---	<0.05	---
Endrin Aldehyde	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin Ketone	0.05			<0.05	---	<0.05	---	<0.05	---
g-BHC (Lindane)	0.05			<0.05	---	<0.05	---	<0.05	---
Heptachlor	0.05	6		<0.05	---	<0.05	---	<0.05	---
Heptachlor epoxide	0.05			<0.05	---	<0.05	---	<0.05	---
HCB	0.05	10		<0.05	---	<0.05	---	<0.05	---
Methoxychlor	0.2	300		<0.2	---	<0.2	---	<0.2	---
DDT+DDD+DDE	0.3	240		0.15	---	0.15	---	0.15	---
Aldrin + Dieldrin	0.1	6		0.05	---	0.05	---	0.05	---
Endosulfan	0.1	270		0.05	---	0.05	---	0.05	---
Organophosphorous Pesticides (OPP)									
Dichlorvos	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorpyrifos (total)	0.1	160		<0.01	---	<0.01	---	<0.01	---
Demeton-S-methyl	0.05			<0.05	---	<0.05	---	<0.05	---
Monocrotophos	0.2			<0.2	---	<0.2	---	<0.2	---
Dimethoate	0.05			<0.05	---	<0.05	---	<0.05	---
Diazinon	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion-methyl	0.2			<0.2	---	<0.2	---	<0.2	---
Malathion	0.05			<0.05	---	<0.05	---	<0.05	---
Fenthion	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion	0.2			<0.2	---	<0.2	---	<0.2	---
Pirimphos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorfenvinphos	0.05			<0.05	---	<0.05	---	<0.05	---
Bromophos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Fenamiphos	0.05			<0.05	---	<0.05	---	<0.05	---
Prothiofos	0.05			<0.05	---	<0.05	---	<0.05	---
Ethion	0.05			<0.05	---	<0.05	---	<0.05	---
Carbophenothion	0.05			<0.05	---	<0.05	---	<0.05	---
Azinphos Methyl	0.05			<0.05	---	<0.05	---	<0.05	---

All results are in units of mg/kg. Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

[A] ASC NEPM 1999 (amended April 2013) Health Investigation Levels (HIL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Investigation Levels (EIL) URPOS (Urban Residential and Public Open Space)

[B] Start of sample, generally over a 0.1m interval. Refer to logs for further details

The Carcinogenic PAH value is calculated by multiplying the concentration of each of the 8 carcinogenic PAH compounds by its B(a)P toxic equivalence factor and summing these products.

HIL for Chromium are for Chromium VI

Presented ecological value for benzo(a)pyrene is a low reliability Ecological Screening Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

EIL for Naphthalene are for fresh (<2years) Naphthalene

EIL for Arsenic are for aged (>2years) Arsenic

EIL for Chromium are the added contaminant limit for aged (>2years) Chromium III in soils of 1% clay, the most conservative of the criteria.

EIL for Copper are the added contaminant limit for aged (>2years) Copper in soils of pH 6.5.

EIL for Lead are the added contaminant limit for aged (>2years) Lead.

EIL for Nickel are the added contaminant limit for aged (>2years) Nickel in soils of 5% CEC the most conservative of the criteria.

EIL for Zinc are the added contaminant limit for aged (>2years) Zinc in soils of 5% CEC and pH of 6.5, the most conservative of the criteria at pH 6.5.

EIL for DDT are for fresh (<2years) DDT

Results shown in **BOLD** are in excess of the HIL

Results shown in shading are >250% of the HIL

Results shown in underline are in excess of EIL

Where summation required (PAH, OCP) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]		TP9 0.3	TP9 1.5	TP10 1.0	TP11 0.3	TP11 1.5	TP12 1.0
Sample Depth (m) [B]		HIL 'A'	EIL URPOS	0.30	1.50	1.00	0.30	1.50	1.00
Date				5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile				FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown, with sub angular and angular gravel	FILL, Sandy CLAY, brown, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with angular gravel
Sample Purpose				Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by				RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	0.5		170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(j)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	0.5		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carcinogenic PAH (B(a)P equivalent)	1.21	3		0.605	0.605	0.605	0.605	0.605	0.605
Sum of reported PAH	8	300		4	4	4	4	4	4
Metals									
Arsenic	5	100	100	<5	<5	<5	<5	<5	<5
Cadmium	1	20		<1	<1	<1	<1	<1	<1
Chromium	2	100	190	20	24	28	19	23	9
Copper	5	6000	280	<5	<5	<5	<5	<5	10
Mercury	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	300	1100	11	8	8	10	8	9
Nickel	2	400	30	4	4	3	3	4	<2
Zinc	5	7400	230	22	8	<5	7	10	<5
Organochlorine Pesticides (OCP)									
Chlordane	0.05	50		<0.05	---	<0.05	---	<0.05	---
DDD	0.05			<0.05	---	<0.05	---	<0.05	---
DDE	0.05			<0.05	---	<0.05	---	<0.05	---
DDT	0.2		180	<0.2	---	<0.2	---	<0.2	---
alpha-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Aldrin	0.05			<0.05	---	<0.05	---	<0.05	---
b-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
d-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Dieldrin	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 1	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 2	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan sulfate	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin	0.05	10		<0.05	---	<0.05	---	<0.05	---
Endrin Aldehyde	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin Ketone	0.05			<0.05	---	<0.05	---	<0.05	---
g-BHC (Lindane)	0.05			<0.05	---	<0.05	---	<0.05	---
Heptachlor	0.05	6		<0.05	---	<0.05	---	<0.05	---
Heptachlor epoxide	0.05			<0.05	---	<0.05	---	<0.05	---
HCB	0.05	10		<0.05	---	<0.05	---	<0.05	---
Methoxychlor	0.2	300		<0.2	---	<0.2	---	<0.2	---
DDT+DDD+DDE	0.3	240		0.15	---	0.15	---	0.15	---
Aldrin + Dieldrin	0.1	6		0.05	---	0.05	---	0.05	---
Endosulfan	0.1	270		0.05	---	0.05	---	0.05	---
Organophosphorous Pesticides (OPP)									
Dichlorvos	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorpyrifos (total)	0.1	160		<0.01	---	<0.01	---	<0.01	---
Demeton-S-methyl	0.05			<0.05	---	<0.05	---	<0.05	---
Monocrotophos	0.2			<0.2	---	<0.2	---	<0.2	---
Dimethoate	0.05			<0.05	---	<0.05	---	<0.05	---
Diazinon	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion-methyl	0.2			<0.2	---	<0.2	---	<0.2	---
Malathion	0.05			<0.05	---	<0.05	---	<0.05	---
Fenthion	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion	0.2			<0.2	---	<0.2	---	<0.2	---
Pirimphos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorfenvinphos	0.05			<0.05	---	<0.05	---	<0.05	---
Bromophos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Fenamiphos	0.05			<0.05	---	<0.05	---	<0.05	---
Prothiofos	0.05			<0.05	---	<0.05	---	<0.05	---
Ethion	0.05			<0.05	---	<0.05	---	<0.05	---
Carbophenothion	0.05			<0.05	---	<0.05	---	<0.05	---
Azinphos Methyl	0.05			<0.05	---	<0.05	---	<0.05	---

All results are in units of mg/kg. Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

[A] ASC NEPM 1999 (amended April 2013) Health Investigation Levels (HIL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Investigation Levels (EIL) URPOS (Urban Residential and Public Open Space)

[B] Start of sample, generally over a 0.1m interval. Refer to logs for further details

The Carcinogenic PAH value is calculated by multiplying the concentration of each of the 8 carcinogenic PAH compounds by its B(a)P toxic equivalence factor and summing these products.

HIL for Chromium are for Chromium VI

Presented ecological value for benzo(a)pyrene is a low reliability Ecological Screening Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

EIL for Naphthalene are for fresh (<2years) Naphthalene

EIL for Arsenic are for aged (>2years) Arsenic

EIL for Chromium are the added contaminant limit for aged (>2years) Chromium III in soils of 1% clay, the most conservative of the criteria.

EIL for Copper are the added contaminant limit for aged (>2years) Copper in soils of pH 6.5.

EIL for Lead are the added contaminant limit for aged (>2years) Lead.

EIL for Nickel are the added contaminant limit for aged (>2years) Nickel in soils of 5% CEC the most conservative of the criteria.

EIL for Zinc are the added contaminant limit for aged (>2years) Zinc in soils of 5% CEC and pH of 6.5, the most conservative of the criteria at pH 6.5.

EIL for DDT are for fresh (<2years) DDT

Results shown in **BOLD** are in excess of the HIL

Results shown in shading are >250% of the HIL

Results shown in underline are in excess of EIL

Where summation required (PAH, OCP) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]		TP13 0.3	TP13 1.0	TP14 0.3	TP14 1.6	TP15 1.0	TP16 0.3
Sample Depth (m) [B]		HIL 'A'	EIL URPOS	0.30	1.00	0.30	1.60	1.00	0.30
Date				5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile				FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel
Sample Purpose				Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by				RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	0.5		170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	0.9	<0.5
Pyrene	0.5			<0.5	<0.5	<0.5	<0.5	0.8	<0.5
Benz(a)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(j)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	0.5		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carcinogenic PAH (B(a)P equivalent)	1.21	3		0.605	0.605	0.605	0.605	0.605	0.605
Sum of reported PAH	8	300		4	4	4	4	5.2	4
Metals									
Arsenic	5	100	100	<5	<5	<5	<5	<5	<5
Cadmium	1	20		<1	<1	<1	<1	<1	<1
Chromium	2	100	190	22	12	36	34	38	23
Copper	5	6000	280	<5	<5	<5	<5	<5	9
Mercury	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	300	1100	11	12	8	8	10	13
Nickel	2	400	30	5	3	5	4	4	5
Zinc	5	7400	230	24	32	14	9	14	86
Organochlorine Pesticides (OCP)									
Chlordane	0.05	50		<0.05	---	<0.05	---	<0.05	---
DDD	0.05			<0.05	---	<0.05	---	<0.05	---
DDE	0.05			<0.05	---	<0.05	---	<0.05	---
DDT	0.2		180	<0.2	---	<0.2	---	<0.2	---
alpha-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Aldrin	0.05			<0.05	---	<0.05	---	<0.05	---
b-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
d-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Dieldrin	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 1	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 2	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan sulfate	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin	0.05	10		<0.05	---	<0.05	---	<0.05	---
Endrin Aldehyde	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin Ketone	0.05			<0.05	---	<0.05	---	<0.05	---
g-BHC (Lindane)	0.05			<0.05	---	<0.05	---	<0.05	---
Heptachlor	0.05	6		<0.05	---	<0.05	---	<0.05	---
Heptachlor epoxide	0.05			<0.05	---	<0.05	---	<0.05	---
HCB	0.05	10		<0.05	---	<0.05	---	<0.05	---
Methoxychlor	0.2	300		<0.2	---	<0.2	---	<0.2	---
DDT+DDD+DDE	0.3	240		0.15	---	0.15	---	0.15	---
Aldrin + Dieldrin	0.1	6		0.05	---	0.05	---	0.05	---
Endosulfan	0.1	270		0.05	---	0.05	---	0.05	---
Organophosphorous Pesticides (OPP)									
Dichlorvos	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorpyrifos (total)	0.1	160		<0.01	---	<0.01	---	<0.01	---
Demeton-S-methyl	0.05			<0.05	---	<0.05	---	<0.05	---
Monocrotophos	0.2			<0.2	---	<0.2	---	<0.2	---
Dimethoate	0.05			<0.05	---	<0.05	---	<0.05	---
Diazinon	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion-methyl	0.2			<0.2	---	<0.2	---	<0.2	---
Malathion	0.05			<0.05	---	<0.05	---	<0.05	---
Fenthion	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion	0.2			<0.2	---	<0.2	---	<0.2	---
Pirimphos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorfenvinphos	0.05			<0.05	---	<0.05	---	<0.05	---
Bromophos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Fenamiphos	0.05			<0.05	---	<0.05	---	<0.05	---
Prothiofos	0.05			<0.05	---	<0.05	---	<0.05	---
Ethion	0.05			<0.05	---	<0.05	---	<0.05	---
Carbophenothion	0.05			<0.05	---	<0.05	---	<0.05	---
Azinphos Methyl	0.05			<0.05	---	<0.05	---	<0.05	---

All results are in units of mg/kg. Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

[A] ASC NEPM 1999 (amended April 2013) Health Investigation Levels (HIL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Investigation Levels (EIL) URPOS (Urban Residential and Public Open Space)

[B] Start of sample, generally over a 0.1m interval. Refer to logs for further details

The Carcinogenic PAH value is calculated by multiplying the concentration of each of the 8 carcinogenic PAH compounds by its B(a)P toxic equivalence factor and summing these products.

HIL for Chromium are for Chromium VI

Presented ecological value for benzo(a)pyrene is a low reliability Ecological Screening Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

EIL for Naphthalene are for fresh (<2years) Naphthalene

EIL for Arsenic are for aged (>2years) Arsenic

EIL for Chromium are the added contaminant limit for aged (>2years) Chromium III in soils of 1% clay, the most conservative of the criteria.

EIL for Copper are the added contaminant limit for aged (>2years) Copper in soils of pH 6.5.

EIL for Lead are the added contaminant limit for aged (>2years) Lead.

EIL for Nickel are the added contaminant limit for aged (>2years) Nickel in soils of 5% CEC the most conservative of the criteria.

EIL for Zinc are the added contaminant limit for aged (>2years) Zinc in soils of 5% CEC and pH of 6.5, the most conservative of the criteria at pH 6.5.

EIL for DDT are for fresh (<2years) DDT

Results shown in **BOLD** are in excess of the HIL

Results shown in shading are >250% of the HIL

Results shown in underline are in excess of EIL

Where summation required (PAH, OCP) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]		TP17 1.0	TP18 0.3	TP18 1.5	TP19 1.0	TP20 0.3	TP20 1.5
Sample Depth (m) [B]		HIL 'A'	EIL URPOS	1.00	0.30	1.50	1.00	0.30	1.50
Date				5/9/18	5/9/18	5/9/18	5/9/18	5/9/18	5/9/18
Sample Profile				FILL, Sandy CLAY, brown mottled orange, with angular and sub angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel	FILL, Sandy CLAY, brown mottled orange, with sub angular and angular gravel
Sample Purpose				Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by				RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	0.5		170	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(j)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	0.5		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carcinogenic PAH (B(a)P equivalent)	1.21	3		0.605	0.605	0.605	0.605	0.605	0.605
Sum of reported PAH	8	300		4	4	4	4	4	4
Metals									
Arsenic	5	100	100	<5	<5	<5	<5	<5	<5
Cadmium	1	20		<1	<1	<1	<1	<1	<1
Chromium	2	100	190	36	34	41	36	39	41
Copper	5	6000	280	<5	<5	<5	<5	<5	<5
Mercury	0.1	40		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	5	300	1100	9	12	6	15	9	8
Nickel	2	400	30	5	4	2	5	5	5
Zinc	5	7400	230	18	11	<5	110	14	9
Organochlorine Pesticides (OCP)									
Chlordane	0.05	50		<0.05	---	<0.05	---	<0.05	---
DDD	0.05			<0.05	---	<0.05	---	<0.05	---
DDE	0.05			<0.05	---	<0.05	---	<0.05	---
DDT	0.2		180	<0.2	---	<0.2	---	<0.2	---
alpha-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Aldrin	0.05			<0.05	---	<0.05	---	<0.05	---
b-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
d-BHC	0.05			<0.05	---	<0.05	---	<0.05	---
Dieldrin	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 1	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan 2	0.05			<0.05	---	<0.05	---	<0.05	---
Endosulfan sulfate	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin	0.05	10		<0.05	---	<0.05	---	<0.05	---
Endrin Aldehyde	0.05			<0.05	---	<0.05	---	<0.05	---
Endrin Ketone	0.05			<0.05	---	<0.05	---	<0.05	---
g-BHC (Lindane)	0.05			<0.05	---	<0.05	---	<0.05	---
Heptachlor	0.05	6		<0.05	---	<0.05	---	<0.05	---
Heptachlor epoxide	0.05			<0.05	---	<0.05	---	<0.05	---
HCB	0.05	10		<0.05	---	<0.05	---	<0.05	---
Methoxychlor	0.2	300		<0.2	---	<0.2	---	<0.2	---
DDT+DDD+DDE	0.3	240		0.15	---	0.15	---	0.15	---
Aldrin + Dieldrin	0.1	6		0.05	---	0.05	---	0.05	---
Endosulfan	0.1	270		0.05	---	0.05	---	0.05	---
Organophosphorous Pesticides (OPP)									
Dichlorvos	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorpyrifos (total)	0.1	160		<0.01	---	<0.01	---	<0.01	---
Demeton-S-methyl	0.05			<0.05	---	<0.05	---	<0.05	---
Monocrotophos	0.2			<0.2	---	<0.2	---	<0.2	---
Dimethoate	0.05			<0.05	---	<0.05	---	<0.05	---
Diazinon	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion-methyl	0.2			<0.2	---	<0.2	---	<0.2	---
Malathion	0.05			<0.05	---	<0.05	---	<0.05	---
Fenthion	0.05			<0.05	---	<0.05	---	<0.05	---
Parathion	0.2			<0.2	---	<0.2	---	<0.2	---
Pirimphos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Chlorfenvinphos	0.05			<0.05	---	<0.05	---	<0.05	---
Bromophos-ethyl	0.05			<0.05	---	<0.05	---	<0.05	---
Fenamiphos	0.05			<0.05	---	<0.05	---	<0.05	---
Prothiofos	0.05			<0.05	---	<0.05	---	<0.05	---
Ethion	0.05			<0.05	---	<0.05	---	<0.05	---
Carbophenothion	0.05			<0.05	---	<0.05	---	<0.05	---
Azinphos Methyl	0.05			<0.05	---	<0.05	---	<0.05	---

All results are in units of mg/kg. Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

[A] ASC NEPM 1999 (amended April 2013) Health Investigation Levels (HIL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Investigation Levels (EIL) URPOS (Urban Residential and Public Open Space)

[B] Start of sample, generally over a 0.1m interval. Refer to logs for further details

The Carcinogenic PAH value is calculated by multiplying the concentration of each of the 8 carcinogenic PAH compounds by its B(a)P toxic equivalence factor and summing these products.

HIL for Chromium are for Chromium VI

Presented ecological value for benzo(a)pyrene is a low reliability Ecological Screening Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

EIL for Naphthalene are for fresh (<2years) Naphthalene

EIL for Arsenic are for aged (>2years) Arsenic

EIL for Chromium are the added contaminant limit for aged (>2years) Chromium III in soils of 1% clay, the most conservative of the criteria.

EIL for Copper are the added contaminant limit for aged (>2years) Copper in soils of pH 6.5.

EIL for Lead are the added contaminant limit for aged (>2years) Lead.

EIL for Nickel are the added contaminant limit for aged (>2years) Nickel in soils of 5% CEC the most conservative of the criteria.

EIL for Zinc are the added contaminant limit for aged (>2years) Zinc in soils of 5% CEC and pH of 6.5, the most conservative of the criteria at pH 6.5.

EIL for DDT are for fresh (<2years) DDT

Results shown in **BOLD** are in excess of the HIL

Results shown in shading are >250% of the HIL

Results shown in underline are in excess of EIL

Where summation required (PAH, OCP) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]				TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3	TP24 1.0	TP25 0.3	TP25 1.2
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Date		SAND 0-<1m	Coarse	Coarse		6/9/18	6/9/18	6/9/18	6/9/18	6/9/18	6/9/18	6/9/18	6/9/18
Sample Profile						FILL, Sandy CLAY, brown, with trace sub angular and angular gravel	FILL, Clayey SAND, brown, with rootlets and plastic bottle, some sub rounded and sub angular gravel and cobbles	FILL, Clayey SAND, brown, with rootlets and plastic bottle, some sub rounded and sub angular gravel and cobbles	FILL, Clayey SAND, light grey and brown	FILL, Sandy CLAY, brown mottled orange, with rootlets, sub angular and angular gravel	FILL, Sandy CLAY, orange, with rootlets, sub angular and angular gravel	FILL, Clayey SAND, brown mottled orange, with rootlets, angular to sub angular gravel, trace asphalt and concrete pieces throughout	FILL, Clayey SAND, light grey, with rootlets, angular to sub angular gravel, trace asphalt and concrete pieces throughout
Dominant Stratum [C]						SAND	SAND	SAND	SAND	SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)													
Benzene	0.2	0.5	50		100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Polycyclic Aromatic Hydrocarbons (PAH)													
Naphthalene	1	3	170		1400	<1	<1	<1	<1	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)													
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	<100	<100	<100	<100	110	190
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	<100	<100	<100	<100	<100
F1	10	45	180			<10	<10	<10	<10	<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50	<50	<50	<50	<50

All results are in units of mg/kg.

Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

[A] ASC NEPM 1999 (amended April 2013) Vapour Based Health Screening Levels (HSL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Screening Levels (ESL) URPOS (Urban Residential and Public Open Space)

[A] ASC NEPM 1999 (amended April 2013) Management Limits (ML) Sensitive Sites (Residential, open space)

[A] CRC Care Technical Report 10, September 2011 Direct Contact (DC) Health Screening Levels 'A' (Residential)

[B] 0 used to allow flexibity in the use of the material as criteria are based on depth. Sample depth is referrred to in Sample Identification, refer to the logs.

[C] Note that this is a generalisation for the purpose of comparing to the HSL criteria. Where two strata represented, most conservative criterion used

NL designates 'Not Limiting' indicating that the pore water concentration required to constitute a vapour risk is higher than the solubility capacity for that compound based on a petroleum mixture. Vapour is therefore not a risk for this compound.

Results for TRH have been compared to TPH guidelines.

Presented ESL for naphthalene is an Ecological Investigation Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

ESL for TRH >C_{16}-C_{34} and >C_{34}-C_{40} are low reliability

Results shown in **BOLD** are in excess of the vapour based HSL

Results shown in shading are >250% of the vapour based HSL

Results shown in underline are in excess of the ESL

Results shown in *italics* are in excess of the management limit

Results shown in patterned cells are in excess of the direct contact HSL

Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Sample Identification	PQL	Guideline [A]				TP26 0.3	TP26 1.2	TP27 0.3	TP28 1.0
Sample Depth (m) [B]		HSL 'A' HSL 'B'	ESL URPOS	Sensitive ML	DC A	0.0	0.0	0.0	0.0
Date		SAND 0-<1m	Coarse	Coarse		6/9/18	6/9/18	6/9/18	6/9/18
Sample Profile						FILL, Sandy CLAY, with rootlets, sub angular and angular gravel	FILL, Clayey SAND, light grey, asphalt pieces	FILL, Clayey SAND, brown and grey, with rootlets, sub angular and angular gravel, asphalt pieces	FILL, Clayey SAND, brown, with rootlets, sub angular and angular gravel, terracotta pipe, trace asphalt
Dominant Stratum [C]						SAND	SAND	SAND	SAND
Sample Purpose						Characterisation	Characterisation	Characterisation	Characterisation
Sample collected by						RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)									
Benzene	0.2	0.5	50		100	<0.2	**0.8**	**1.3**	<0.2
Toluene	0.5	160	85		14000	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	55	70		4500	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	0.5					<0.5	<0.5	<0.5	<0.5
ortho-Xylene	0.5					<0.5	<0.5	<0.5	<0.5
Total Xylenes	1	40	105		12000	0.5	0.5	0.5	0.5
Polycyclic Aromatic Hydrocarbons (PAH)									
Naphthalene	1	3	170		1400	<1	<1	<1	<1
Total Recoverable Hydrocarbons (TRH)									
TRH C_6-C_{10}	10			700	4400	<10	<10	<10	<10
TRH >C_{10}-C_{16}	50		120	1000	3300	<50	<50	<50	<50
TRH >C_{16}-C_{34}	100		300	2500	4500	<100	<100	170	<u>410</u>
TRH >C_{34}-C_{40}	100		2800	10000	6300	<100	<100	<100	110
F1	10	45	180			<10	<10	<10	<10
F2	50	110				<50	<50	<50	<50

All results are in units of mg/kg.

Blank Cell indicates no criterion available

PQL = Practical Quantitation Limit. Where PQL is for a summation, PQL of all components is summed and may be different from that presented by laboratory

F1 = TRH C_6-C_{10} minus BTEX. F1 PQL deemed equal TRH C_6-C_{10}.

F2 = TRH >C_{10}-C_{16} minus naphthalene. F2 PQL deemed = TRH >C_{10}-C_{16}.

[A] ASC NEPM 1999 (amended April 2013) Vapour Based Health Screening Levels (HSL) 'A' (Residential)

[A] ASC NEPM 1999 (amended April 2013) Ecological Screening Levels (ESL) URPOS (Urban Residential and Public Open Space)

[A] ASC NEPM 1999 (amended April 2013) Management Limits (ML) Sensitive Sites (Residential, open space)

[A] CRC Care Technical Report 10, September 2011 Direct Contact (DC) Health Screening Levels 'A' (Residential)

[B] 0 used to allow flexibity in the use of the material as criteria are based on depth. Sample depth is referrred to in Sample Identification, refer to the logs.

[C] Note that this is a generalisation for the purpose of comparing to the HSL criteria. Where two strata represented, most conservative criterion used

NL designates 'Not Limiting' indicating that the pore water concentration required to constitute a vapour risk is higher than the solubility capacity for that compound based on a petroleum mixture. Vapour is therefore not a risk for this compound.

Results for TRH have been compared to TPH guidelines.

Presented ESL for naphthalene is an Ecological Investigation Level

For the purpose of the Tier 1 ESL/EIL assessment, all background concentrations are assumed to be zero

ESL for TRH >C_{16}-C_{34} and >C_{34}-C_{40} are low reliability

Results shown in **BOLD** are in excess of the vapour based HSL

Results shown in shading are >250% of the vapour based HSL

Results shown in <u>underline</u> are in excess of the ESL

Results shown in *italics* are in excess of the management limit

Results shown in patterned cells are in excess of the direct contact HSL

Where summation required (Xylene, F1, F2) calculation includes components reported as non detected as 1/2 PQL.

Appendix G

Proposed Overall Development Plan

SITE LEGEND

- POOL,WETLAND, POND
- EXISTING ROAD
- EXISTING STRUCTURE
- XPP POWER POLE
- POWER LINES
- EXISTING TREE
- DEMOLISH TREE
- DEMOLISH HOLLOW BEARING TREE
- HOLLOW BEARING TREE
- NEW TREE
- RING ROAD
- NEW ROAD
- NEW STRUCTURE
- (f) 1:100 YEAR FLOOD LINE
- (w) SEPP 14 WETLANDS
- (f) CREEK FLOOD LINE
- (cr) CREEK TOP OF BANK
- (e) VEGETATION TRUNK LINE
- (ev) VEGETATION CANOPY LINE
- (a) 50M ASSET PROTECTION ZONE

LOCATION PLAN

NOTE :

ALL TREES INSIDE THE BOUNDARY LINE HAVE BEEN SURVEYED.
REFER TO SURVEY B1662DET - 1 - B

ALL THE TREES OUTSIDE THE BOUNDARY LINE HAVE BEEN TAKEN FROM A GOOGLE EARTH PHOTO.

1 02_0401 SITE PLAN - OVERALL
SCALE 1 : 1000

REV	DATE	DESCRIPTION	BY	CHK
X	02.03.2018	FOR CONSULTANT COORDINATION	LK	
Y	09.03.2018	FOR QA	LK	
Z	14.03.2018	FOR CONSULTANT COORDINATION	LK	
AA	29.03.2018	FOR CLIENT APPROVAL	LK	TH
BB	04.04.2018	FOR CLIENT APPROVAL	LK	
CC	16.04.2018	FOR COUNCIL INFORMATION	LK	
DD	04.05.2018	FOR REVIEW	ME	
EE	10.05.2018	FOR CONSULTANT COORDINATION	LK	
FF	15.05.2018	FOR DEVELOPMENT APPROVAL	LK	

BUILDER TO CONFIRM ALL DETAILS, SETOUTS (TILE, ETC.), FALLS & CONNECTIONS ON SITE BEFORE CONSTRUCTION

Catholic Schools Office
DIOCESE OF MAITLAND-NEWCASTLE

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Directors Jon Webber (Nominated Architect) AIA NSW ARB NO. 6830 Sandra Hinchey, Kieran Brooks
Associate Directors Tim Hayes
Associates Luke Keating

SITE PLAN - OVERALL

CATHERINE McAULEY CATHOLIC COLLEGE
507 MEDOWIE ROAD, MEDOWIE

ISSUED :
FOR DA APPROVAL
NOT FOR CONSTRUCTION

PROJECT COMMENCEMENT DATE : 01.05.2017

SCALE : 0 10 20 30 40 50 m
SCALE 1:1000 @ A1

NORTH : TRUE NORTH

SHEET NUMBER : **2544_02_0002_FF**

PRINT DATE: 18/05/2018 5:53:37 PM FILE PATH: C:\Users\megan.eiman\Documents\2544 Medowie Catholic School_megan.eiman.rvt

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Appendix H

Waste Classification Assessment

TIER 1 - Total Concentrations WITHOUT Leaching Test

Analyte	PQL	Total Concentration [A]		Samples within the south western mound															
		General Solid	Restricted Solid	BH17A	BH17B	BH17C	BH17D	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2	TP27 0.3	TP28 1.0
Sample Date				12/02/2018	12/02/2018	12/02/2018	12/02/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018
Sample Profile				TOPSOIL/FILL, Sandy LOAM, fine to medium grained, brown, trace gravel	FILL, Silty SAND, fine to coarse grained, with gravels, includes brick, stone and concrete	FILL, Silty Gravelly Sandy CLAY, fine to coarse grained sand, trace asphalt, brick, stone and concrete	Silty CLAY, brown	FILL, Sandy CLAY, brown, with trace sub angular and angular gravel	FILL, Clayey SAND, brown, with rootlets and plastic bottle, some sub rounded and sub angular gravel and cobbles	FILL, Clayey SAND, brown, with rootlets and plastic bottle, some sub rounded and sub angular gravel and cobbles	FILL, Clayey SAND, light grey and brown	FILL, Sandy CLAY, brown mottled orange, with rootlets, sub angular and angular gravel	FILL, Sandy CLAY, orange, with rootlets, sub angular and angular gravel	FILL, Clayey SAND, brown mottled orange, with rootlets, angular to sub angular gravel, trace asphalt and concrete pieces throughout	FILL, Clayey SAND, light grey, with rootlets, angular to sub angular gravel, trace asphalt and concrete pieces throughout	FILL, Sandy CLAY, with rootlets, sub angular and angular gravel	FILL, Clayey SAND, light grey, asphalt pieces	FILL, Clayey SAND, brown and grey, with rootlets, sub angular and angular gravel, asphalt pieces	FILL, Clayey SAND, brown, with rootlets, sub angular and angular gravel, terracotta pipe, trace asphalt
Sample collected by				RCA- KS/ZL	RCA- KS/ZL	RCA- KS/ZL	RCA- KS/ZL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL	RCA- RJL
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)																			
Benzene	0.2	10	40	<0.2	<0.2	<0.2	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8	1.3	<0.2
Toluene	0.5	288	1152	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	600	2400	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene	1	1000	4000	0.5	0.5	0.5	--	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total Recoverable Hydrocarbons (TRH)																			
TRH C_6-C_9	10	650	2600	<10	<10	<10	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TRH C_{10}-C_{36}	250	10000	40000	125	585	365	--	125	125	125	125	125	125	125	255	125	125	125	475
Polycyclic Aromatic Hydrocarbons (PAH)																			
Benzo(a) pyrene	0.5	0.8	3.2	<0.5	**10**	**4.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**4**	**7.1**	<0.5	**2.3**	**2.4**	**8.7**
Sum of Reported PAH	6.5	200	800	5.9	149.55	61.1	6.9	3.75	3.75	3.75	3.75	3.75	3.75	44	83.3	3.75	23.7	27.45	95.75
Metals																			
Arsenic	5	100	400	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cadmium	1	20	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	2	100	400	28	23	15	18	12	<2	3	3	40	35	10	6	43	8	8	8
Copper	5			7	6	20	<5	<5	<5	<5	<5	<5	<5	7	8	<5	46	61	33
Mercury	0.1	4	16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2
Lead	5	100	400	16	14	24	7	9	<5	<5	6	10	6	30	32	16	56	59	64
Nickel	2	40	160	10	6	11	3	4	<2	<2	<2	8	6	3	<2	8	11	15	13
Zinc	5			30	13	25	<5	15	<5	<5	7	7	6	38	47	<5	68	78	86

TIER 2a - Leachable Concentrations

Analyte	PQL	Leachable Concentrations [A]		Samples within the fill mounds															
		General Solid	Restricted Solid	BH17A	BH17B	BH17C	BH17D	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2	TP27 0.3	TP28 1.0
Polycyclic Aromatic Hydrocarbons (PAH)																			
Benzo(a) pyrene	1	0.04	0.16																

TIER 2b - Total Concentrations WITH Leachable Concentrations as in Tier 2a

Analyte	PQL	Total Concentrations [B]		Samples within the fill mounds															
		General Solid	Restricted Solid	BH17A	BH17B	BH17C	BH17D	TP21 0.3	TP22 0.3	TP22 1.0	TP23 1.0	TP24 0.3	TP24 1.0	TP25 0.3	TP25 1.2	TP26 0.3	TP26 1.2	TP27 0.3	TP28 1.0
Polycyclic Aromatic Hydrocarbons (PAH)																			
Benzo(a) pyrene	0.5	10	23																
Final Sample Classification				General Solid Waste	**Hazardous Waste**	**Hazardous Waste**	General Solid Waste	General Solid Waste	General Solid Waste	General Solid Waste	General Solid Waste	General Solid Waste	General Solid Waste	**Hazardous Waste**	**Hazardous Waste**	General Solid Waste	**Restricted Solid Waste**	**Restricted Solid Waste**	**Hazardous Waste**

All total results are in units of mg/kg. All leachable results are in units of mg/L
PQL = Practical Quantitation Limit.
[A] NSWEPA Waste Classification Guidelines, 2014. Table 1, CT1 & CT2
[B] NSWEPA Waste Classification Guidelines, 2014. Table 2, TCLP1 & TCLP2
[C] NSWEPA Waste Classification Guidelines, 2014. Table 2, SCC1 & SCC2
Blank Cell indicates no criterion available
Results for TRH have been compared to TPH guidelines.
Guidelines reported for Chromium are for Chromium VI
Results shown in ***BOLD*** are in excess of the General Solid Waste criteria
Results shown in ***shading*** are in excess of the Restricted Solid Waste criteria
Where summation required (Xylene, TRH, PAH) calculation includes components reported as non detected as 1/2 PQL.