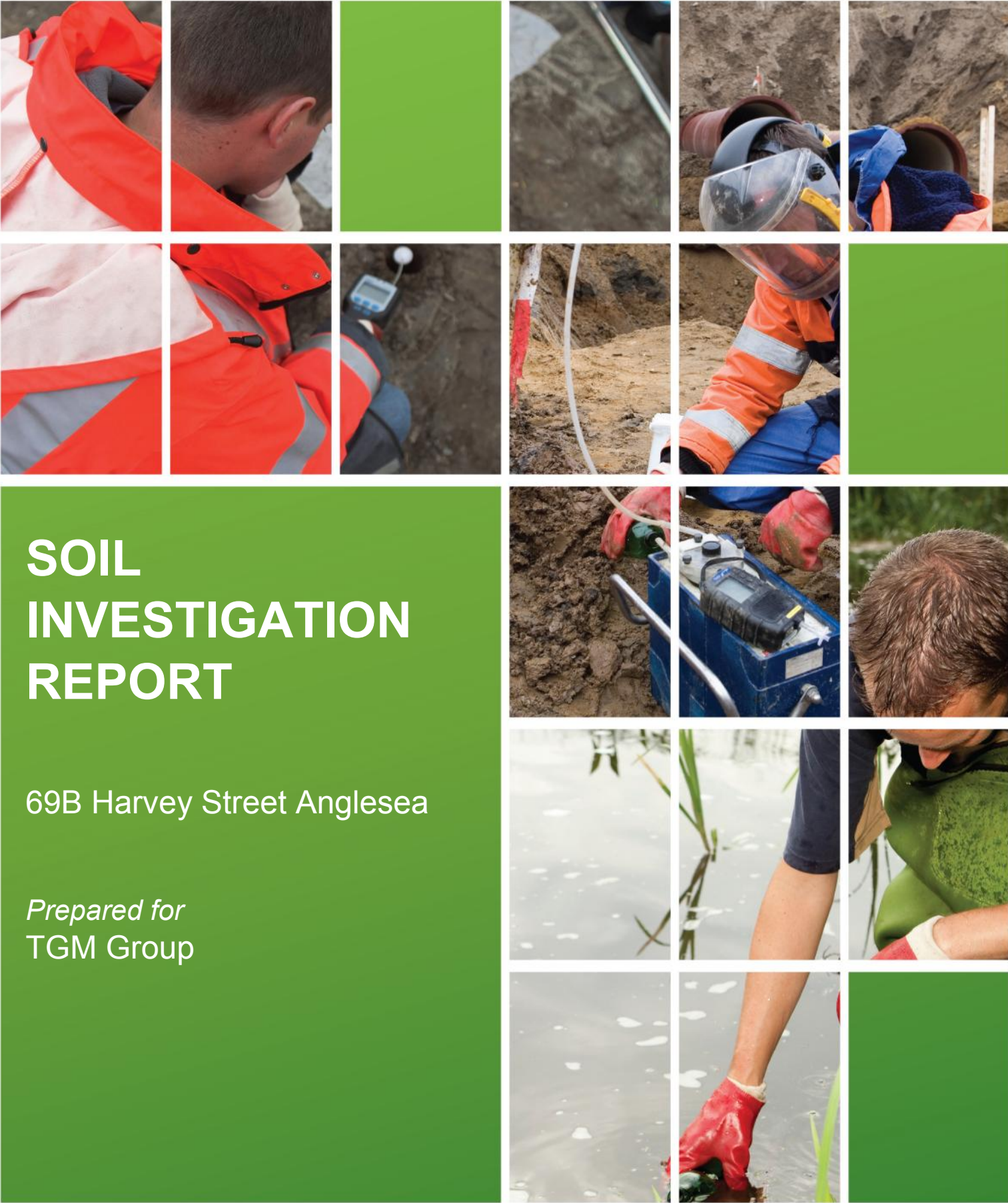




SOIL INVESTIGATION REPORT

69B Harvey Street Anglesea

Prepared for
TGM Group



Environmental
Site Assessments

office@esagroup.com.au | 0433 747 187 | www.esagroup.com.au



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Environmental Site Assessments Pty Ltd
PO Box 3106
Wauru Ponds 3216
Phone: 0433 747 187

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Signatures:	Prepared and Authorised by:  Seton Lillas BSc Waik. MEIANZ Managing Director

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1.0 BACKGROUND

Environmental Site Assessments ('ESA') was engaged by TGM Group ('the Client') to conduct a limited soil investigation on the subject site, which is located at 69B Harvey Street, Anglesea ('the Site').

The site is currently a vacant block that is zoned as Public Use Zone – Service and Utility (PUZ1). The client wishes to know whether the site is suitable for residential reuse based on the results of the soil investigation.

2.0 SCOPE OF WORKS

The following scope of works was approved by TGM Group to address this:

- Collection and analysis of ten primary soil samples at a NATA accredited laboratory for the following contaminants of potential concern ('COPCs'):
 - 1 x NEPM (2013) Suite of Analytes
 - 2 x TRH/PAH/BTEX/8 Metals
 - 2 x PAH/8 Metals
 - 5 x 8 Metals
- Production of a report comparing the analytical results with the NEPM guidelines¹ for conventional density residential use.

3.0 RESULTS OF ANALYSIS

Based on the results obtained from this sampling program, the soils investigated were found to be suitable for reuse in a conventional density residential setting.

The following sections describe the guidelines, standards and investigation methods adopted for the soil sampling program.

4.0 SOIL SAMPLING PROGRAM

4.1 Relevant Guidelines and Standards

The sampling program was undertaken in accordance with the following guidelines, standards and policies:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005).
- Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances (Standards Australia, 1999).
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013)
- State Environment Protection Policy (Prevention and Management of Contamination of Land) No. S95, EPA Victoria, June 2002

4.2 Quality Assurance / Quality Control

4.2.1 Environmental Site Assessments Quality Assurance (QA) Program

Environmental Site Assessments has developed and implemented a Quality Assurance Program in general accordance with the following guidelines:

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005).
- National Environment Protection Council ('NEPC') - National Environment Protection (Assessment of Site Contamination) Measure (NEPM) - Schedule B3 Guideline on Laboratory Analysis of Potentially Contaminated Soils, 1999 (Amended 2013).

As part of the Quality Assurance Program, Environmental Site Assessments ensures that the following methodology is employed:

- The use of appropriately qualified and trained environmental scientists to perform intrusive works.
- The use of standardised field sheets to record the findings of the site investigations.
- The collection and analysis of Quality Control samples as per AS 4482.1.
- The use of Chain of Custody procedures to ensure that sample integrity is maintained through the transport and handling stages.
- Only using NATA accredited laboratories for the analysis of samples collected during the investigation activities.

¹ National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013)

As per the Environmental Site Assessments Quality Assurance Program, the following data quality indicators were used for the assessment of the laboratory analytical data:

- All sample analysis to be conducted using NATA registered methods in accordance with NEPM 1999 (Amended 2013) guidelines.
- Laboratory method blank analysis required to be below the Limit of Reporting ('LOR').
- Surrogate compound concentrations required to be spiked at similar concentrations to the sample result.

4.2.2 Environmental Site Assessments Quality Control ('QC') Program

The overall precision of laboratory split samples and laboratory duplicates is generally assessed by their Relative Percentage Difference ('RPD').

The RPD of duplicated analyses were calculated and compared to the following criteria for acceptability. The acceptance criteria are listed in AS4482.1 (2005):

- Less than 30% for laboratory duplicates where the detection is less than 10 times the LOR
- Less than 20% for laboratory duplicates where the detection is greater than 10 times the LOR
- RPDs for control spike duplicates will be compared to an acceptable limit of 20%
- RPDs for matrix spike duplicates will be compared to an acceptable limit of 20%, and
- Percentage recoveries of control spikes and matrix spikes will be compared to an acceptable range of 70% – 130%. Where this range is exceeded, reference to the laboratories internal data quality objective limits will be made. In addition, percentage recoveries of surrogates will also be compared to the USEPA surrogate recovery limits.

4.2.3 Sample Documentation

All samples collected were labelled in a clear and precise way for proper identification in the field and for tracking in the laboratory.

The samples had identifiable and unique numbers. The sample labels contained the following information:

- Company name
- Name of sampler
- Sample ID
- Date/Time sample was collected.

Chain-of-custody forms were used to document sample collection and transport to laboratories for analysis. All sample transports for analysis were accompanied by a chain-of-custody form.

Forms were completed and sent with the samples for each laboratory and each transport. If multiple coolers were sent to a single laboratory on a single day, forms were completed and sent with the samples for each cooler.

The chain-of-custody forms identified the contents of each transport and maintained the custodial integrity of the samples. The coolers in which samples were stored were sealed with self-adhesive custody seals. All custody seals were signed. The chain of custody forms are attached to **Appendix 2**.

4.2.4 Packaging and Transport

All sample containers were placed in a plastic cooler. The following outlines the packaging procedures that were followed for samples:

- When ice was used, it was packed in zip-locked, double plastic bags. The drain plug of the cooler was sealed with fiberglass tape to prevent melting ice from leaking out of the cooler.
- The bottom of the cooler was lined with bubble wrap to prevent breakage during transport.
- All glass sample containers were enclosed in bubble wrap to prevent breakage.
- Where required, empty space in the cooler was filled with bubble wrap to prevent movement and breakage during transport.
- Ice used to cool samples was placed on top and around the samples to chill them to the correct temperature.
- Each cooler was securely taped shut with signed custody seals.

4.2.5 Field Notes

The following information was recorded during the collection of samples:

- Sample location and description
- Sampling area sketch showing sample location and measured distances (where required)
- Sampler's name(s)
- Date and time of sample collection

- Sample ID
- Type of soil/material encountered (Fill, Natural etc.)
- GPS Coordinates
- Photoionisation Detector ('PID') readings
- Field observations and details related to analysis or integrity of samples (e.g., weather conditions, noticeable odours, colours etc.)
- Soil descriptions as per AS1726-1993
- Sample preservation details.

4.3 Analytical Results

This sampling program was undertaken on site on 20 July 2015. A hand auger and gloved hand were used to collect samples from ten sample points across the site (See **Appendix 4**).

Table 4.3 illustrates the samples that were collected for analysis.

Sample ID	Sampling Point	Depth of Sample (m BGL)	Lab Analysis	PID (PPM)/Odour	Visual Contamination
SP01/0-0.15	SP01	0-0.15	8 Metals	0.0/Nil	Nil
SP02/0-0.15	SP02	0-0.15	PAH/8 Metals	0.0/Nil	Nil
SP03/0-0.15	SP03	0-0.15	8 Metals	0.0/Nil	Nil
SP04/0-0.15	SP04	0-0.15	8 Metals	0.0/Nil	Nil
SP05/0-0.15	SP05	0-0.15	PAH/8 Metals	0.0/Nil	Nil
SP06/0-0.15	SP06	0-0.15	NEPM Suite*	0.0/Nil	Nil
SP07/0-0.15	SP07	0-0.15	8 Metals	0.0/Nil	Nil
SP08/0-0.15	SP08	0-0.15	8 Metals	0.0/Nil	Nil
SP09/0-0.15	SP09	0-0.15	TRH C6-C40/PAH/BTEX/8 Metals	0.0/Nil	Nil
SP10/0-0.15	SP10	0-0.15	TRH C6-C40/PAH/BTEX/8 Metals	0.0/Nil	Nil

Table 4.3

* = 15 Metals including As, Ba, Be, B, Cd, Cr, Co, Cu, Hg, Mn, Ni, Pb, Se V, Zn, TRH (C6-C36 or 40) / BTEXN, PAH/Phenols (16 PAHs & 12 Phenols), OC/OP Pesticides Including Triazine, Pesticides (Atrazine) and Bifenthrin, PCB, Cyanide – WAD, Chromium – Hexavalent (Alkaline Leach)

4.3.1 Photoionisation Calibration

The photoionisation detector ('PID') was calibrated prior to sample collection. The PID calibration sheet is attached to **Appendix 1**. All samples were analysed using the PID and the results are shown in Table 4.3.

4.3.2 Results of Analysis

Australian Laboratory Services Pty Ltd ('ALS') was used for conducting the soil analysis. ALS are NATA certified for the analysis undertaken.

The comparison tables for laboratory results are attached in **Appendix 3**. All chain of custody forms, certificates of analysis and laboratory QA/QC documents are in **Appendix 2**.

The laboratory results were compared with:

- National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013) HIL A.

The results were as follows:

- All results were below the upper thresholds of HIL A for conventional density residential reuse.

- No comparison was required against HSLs, ESLs or Management Limits based on the results.

4.3.3 Laboratory QA/QC

As part of their NATA accreditation, ALS perform internal duplicate analysis of samples for comparison of results to demonstrate precision. Laboratory standards including matrix spike samples, laboratory control samples and surrogates are also conducted as a basis to demonstrate accuracy. In addition, internal laboratory blank samples are run to assess the potential for laboratory equipment errors. The laboratory QA/QC results are attached in **Appendix 2**.

4.3.3.1 ALS Environmental Laboratory

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Two Laboratory Control outliers exist.
- No Surrogate Recovery outliers occur.

4.3.3.2 Sample Holding Times and Sample Receipt Temperature

Sample holding times were within acceptable ranges from collection to extraction. The documented temperature of samples upon receipt at the respective laboratory was within an acceptable range.

4.3.3.3 Conclusion

A review of the laboratory reports indicates that ALS has met their internal acceptance criteria for the quality control samples.

5.0 CONCLUSIONS

All of the soil samples analysed were suitable for use in a conventional density residential setting in line with ASC NEPM (1999, Amended) guidelines.

As such, it is believed that based on the results of this investigation the site is suitable for its intended use as a residential property.

6.0 REFERENCES

- Australia Standard (AS 4482.1) - Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds (Standards Australia, 2005)
- Australia Standard (AS 4482.2) - Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances (Standards Australia, 1999)
- Australian Standard (AS 1726 -1993) – Geotechnical Site Investigations (Standards Australia, 1993)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013)
- State Environment Protection Policy (Prevention and Management of Contamination of Land) No. S95, EPA Victoria, June 2002
- Environment Protection Act 1970, Victoria. Act No 8056/1970
- Industrial Waste Resource Guidelines (IWRG): Sampling and Analysis of Waters, Wastewaters, Soils and Wastes, Publication IWRG701, EPA Victoria, June 2009
- Industrial Waste Resource Guidelines (IWRG): Soil Sampling, Publication IWRG702, EPA Victoria, June 2009

DISCLAIMER

This disclaimer, together with any limitations specified in the report, applies to use of this report.

This report was prepared in accordance with a contracted scope of services. There were a series of cost, time and other constraints, which have affected the accuracy, and completeness of investigations undertaken.

This report has been prepared solely for use by, and is confidential to; the client who contracted the scope of services and Environmental Site Assessments accepts no responsibility for its use by other persons.

The contract for the preparation of this report contains express limitations upon the liability of Environmental Site Assessments, which should be considered carefully. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal advice.

This report must be read in conjunction with the Statement of Qualifications and Limitations contained within it.

STATEMENT OF QUALIFICATIONS AND LIMITATIONS

It is not possible to identify all contamination or potential contaminants in or under the surface of the site. This is an intrinsic risk when investigating potentially contaminated sites. As such, Environmental Site Assessments has prepared the following information, which details the limitations of this environmental report.

In preparing this report, Environmental Site Assessments has relied on client/ third party information, which was not verified by Environmental Site Assessments, and Environmental Site Assessments does not accept responsibility for omissions or inaccuracies in the client/ third party information.

This report is based solely on the specific instructions received from its client and/or the scope of works agreed between Environmental Site Assessments and its client. Those instructions and/or scope of work may not be fully described in this report.

This report is based on the site conditions identified at the time of inspection. It is not possible to identify all contamination or potential contaminants in or under the surface of the site.

Investigations undertaken in respect of this report may have been constrained by the particular site conditions, such as the location of buildings, services and vegetation. Further, changes that may have occurred after inspection.

As a result of these matters, not all relevant site history, contaminants or potential for contamination may have been identified in this report.

No warranties express or implied, as to the accuracy or completeness of the matters contained within it are made.

Although normal standards of professional practice have been applied, the absence of any identified potential for air, soil or groundwater impacts on the subject property should not be interpreted as a conclusion that impacts do not exist on the site.

Subsurface conditions can vary across a particular site, which cannot be wholly defined by investigation.

As a result, it is unlikely that the results and estimations presented in this report will reflect the extremes of conditions within the site. Subsurface conditions including impact concentrations can change in a limited period of time. Any information provided may be based on "spot" tests. Conditions may vary between or beyond those locations from the interpreted conditions based on the actual data.

The analyses, evaluations, opinions and conclusions presented in this report are based on the information provided, and they could change if the information is in fact found to be unrepresentative of conditions between sampling and analysis locations.

The assessment and remediation of contamination is a developing science. Clean Up technology is constantly changing as scientific information on data collection, risk assessment, toxicology and remediation technologies are published. Further, opinions can vary as to the criterion for whether particular conditions constitute contamination, and if so how that contamination should be addressed or remediated. Different persons might reasonably or otherwise form opinions different to those of Environmental Site Assessments.

Use of the site for any purpose may require planning and other approvals and, in some cases, EPA and accredited site auditor approvals. Environmental Site Assessments offers no opinion as to the likelihood of obtaining any such approvals, or the conditions and obligations, which such approvals may impose, which may include the requirement for significant environment works.

The ongoing use of the site or use of the site for a different purpose may require the owner/ user to manage and/ or remediate site conditions, such as contamination and other conditions, including but not limited to conditions referred to in this report.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works.

To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

Environmental Site Assessments makes no determination or recommendation regarding a decision whether to acquire or provide financing with respect to the site.



Attachment 1: PID Calibration Form

PID Calibration Record

Project Name	TGM - Angesea	Calibrated By	ATS
Project Address	69B Harvey St Angesea	Date	20/7/15

Sensor	Type	Serial Number	Span Gas	Concentration	Reading	
					Zero	Span
PID	10.6ev	1062P83010	Isobutylene	100ppm	0.0	100.0
PID	10.6ev	1062R919002	Isobutylene	100ppm		



PID Calibration Record

Project Name	TGM - Andjesea	Calibrated By	AIS
Project Address	69B Harvey St Andjesea	Date	20/7/15

Sensor	Type	Serial Number	Span Gas	Concentration	Reading	
					Zero	Span
PID	10.6ev	1062P83010	Isobutylene	100ppm	0.0	100.0
PID	10.6ev	1062R919002	Isobutylene	100ppm		



Attachment 2: Chain of Custody Forms and Certificates of Analysis



CHAIN OF CUSTODY

LAB: ALS	TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
CLIENT: ENVIRONMENTAL SITE ASSESSMENTS	☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes No N/A
OFFICE: PO BOX 3106, WAURN PONDS VIC 3216	QUOTE NO.:	Ice / frozen ice bricks present?	Yes No N/A
PROJECT: TMH- Anglesca		Random Sample Temperature on Receipt:	C
PROJECT MANAGER: Seton Lias	CONTACT PH: 0433 747 1878	Other comment:	
SAMPLER: A. Stephens	SAMPLER MOBILE: 0428889276	RELINQUISHED BY: A. Stephens	RECEIVED BY: Bhanathi CALS
Email Reports to: office@esagroup.com.au		DATE/TIME: 20/7/15 14:15	DATE/TIME:
Email Invoice to: accounts@esagroup.com.au		DATE/TIME: 20/7/15 14:15	DATE/TIME:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		Method of Delivery: ☒ Hand Delivered ☐ Courier ☐ Postal	

SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)				CONTAINER INFORMATION		ANALYSIS REQUIRED					Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE	TOTAL CONTAINERS							
1	SP01/0-0.15	20/7/15	S	Soil Jar	1	NEG	P21/19	S-26	ESAI5	S-2		
2	SP02/0-0.15								X	X		
3	SP03/0-0.15									X		
4	SP04/0-0.15								X	X		
5	SP05/0-0.15											
6	SP06/0-0.15					X						
7	SP07/0-0.15									X		
8	SP08/0-0.15									X		
9	SP09/0-0.15							X				
10	SP10/0-0.15							X				
TOTAL					10	1	2	2	5			

Environmental Division
Melbourne
Work Order Reference
EM1512238



Telephone : +61-3-8549 9600

CERTIFICATE OF ANALYSIS

Work Order : **EM1512238**
Client : **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**
Contact : MR SETON LILLAS
Address : P.O. BOX 3106
 WAURN PONDS VIC 3216
E-mail : seton@envirositeassessments.com
Telephone : ----
Facsimile : ----
Project : TMG-Anglesea
Order number : ----
C-O-C number : ----
Sampler : AIDAN STEPHENS
Site : ----

Quote number : ----

Page : 1 of 13
Laboratory : Environmental Division Melbourne
Contact : Carol Walsh
Address : 4 Westall Rd Springvale VIC Australia 3171

E-mail : carol.walsh@alsglobal.com
Telephone : +61-3-8549 9608
Facsimile : +61-3-8549 9601
QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Date Samples Received : 20-Jul-2015 14:15
Date Analysis Commenced : 21-Jul-2015
Issue Date : 24-Jul-2015 17:18

No. of samples received : 10
No. of samples analysed : 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Bronwyn Sheen	Client Services Manager	Melbourne Organics
Chris Lemaitre	Non-Metals Team Leader	Melbourne Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Herman Lin	Laboratory Manager	Melbourne Inorganics
Nancy Wang	Senior Semivolatile Instrument Chemist	Melbourne Inorganics
		Melbourne Organics
Steven McGrath	Technical Manager - Client Services	Melbourne Inorganics



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.

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.

- 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), Dibenzo(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	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1	%		13.0	15.4	18.4	16.8	10.6
EG005T: Total Metals by ICP-AES									
Barium	7440-39-3	10	mg/kg		----	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		----	----	----	----	----
Boron	7440-42-8	50	mg/kg		----	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		----	----	----	----	----
Manganese	7439-96-5	5	mg/kg		----	----	----	----	----
Selenium	7782-49-2	5	mg/kg		----	----	----	----	----
Vanadium	7440-62-2	5	mg/kg		----	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		9	12	23	13	29
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		21	25	39	22	22
Copper	7440-50-8	5	mg/kg		<5	6	11	7	26
Lead	7439-92-1	5	mg/kg		10	8	29	18	12
Nickel	7440-02-0	2	mg/kg		<2	3	4	4	<2
Zinc	7440-66-6	5	mg/kg		86	40	61	239	234
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		----	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		----	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		----	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg		----	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	----
Mirex	2385-85-5	0.2	mg/kg		----	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.05	mg/kg		----	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	----	----
EP068C: Triazines									
Atrazine	1912-24-9	0.05	mg/kg		----	----	----	----	----
EP068D: Pyrethroids									
Bifenthrin	82657-04-3	0.05	mg/kg		----	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	----	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	0.6	----	----	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	1.2	----	----	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		----	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		----	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		----	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	----	----	----	----
>C10 - C16 Fraction	>C10_C16	50	mg/kg		----	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		----	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		----	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	95.6	----	----	94.8
2-Chlorophenol-D4	93951-73-6	0.5	%		----	101	----	----	100
2,4,6-Tribromophenol	118-79-6	0.5	%		----	76.0	----	----	77.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	92.6	----	----	106
Anthracene-d10	1719-06-8	0.5	%		----	105	----	----	101
4-Terphenyl-d14	1718-51-0	0.5	%		----	95.5	----	----	93.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1	%		7.9	13.9	11.0	5.7	1.9
EG005T: Total Metals by ICP-AES									
Barium	7440-39-3	10	mg/kg		<10	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		<1	----	----	----	----
Boron	7440-42-8	50	mg/kg		<50	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		<2	----	----	----	----
Manganese	7439-96-5	5	mg/kg		13	----	----	----	----
Selenium	7782-49-2	5	mg/kg		<5	----	----	----	----
Vanadium	7440-62-2	5	mg/kg		65	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		13	7	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		27	12	9	20	4
Copper	7440-50-8	5	mg/kg		<5	<5	8	41	<5
Lead	7439-92-1	5	mg/kg		<5	10	24	<5	11
Nickel	7440-02-0	2	mg/kg		<2	2	3	139	<2
Zinc	7440-66-6	5	mg/kg		9	35	277	64	42
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		<0.5	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		<1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
Mirex	2385-85-5	0.2	mg/kg		<0.20	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP068C: Triazines									
Atrazine	1912-24-9	0.05	mg/kg		<0.05	----	----	----	----
EP068D: Pyrethroids									
Bifenthrin	82657-04-3	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	<0.5	<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		<0.5	----	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<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
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	----	----	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	----	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg		<50	----	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<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
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		105	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		103	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		89.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		104	----	----	97.9	99.1
2-Chlorophenol-D4	93951-73-6	0.5	%		109	----	----	105	106
2,4,6-Tribromophenol	118-79-6	0.5	%		77.8	----	----	78.4	80.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		110	----	----	93.6	94.4
Anthracene-d10	1719-06-8	0.5	%		112	----	----	110	107
4-Terphenyl-d14	1718-51-0	0.5	%		108	----	----	101	97.2
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		105	----	----	118	113
Toluene-D8	2037-26-5	0.2	%		83.1	----	----	115	91.0
4-Bromofluorobenzene	460-00-4	0.2	%		95.9	----	----	117	99.1

QA/QC Compliance Assessment for DQO Reporting

Work Order	: EM1512238	Page	: 1 of 7
Client	: ENVIRONMENTAL SITE ASSESSMENTS PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Telephone	: +61-3-8549 9608
Project	: TMG-Anglesea	Date Samples Received	: 20-Jul-2015
Site	: ----	Issue Date	: 24-Jul-2015
Sampler	: AIDAN STEPHENS	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** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	QC-160013-001	----	Acenaphthene	83-32-9	123 %	68-114%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	QC-160013-001	----	Phenanthrene	85-01-8	120 %	69-113%	Recovery greater than upper control limit
Miscellaneous							
EG005T: Total Metals by ICP-AES	EM1512222--024	Anonymous	Manganese	7439-96-5	136 %	68-136%	
EP080/071: Total Petroleum Hydrocarbons	EM1512227--003	Anonymous	C10 - C14 Fraction	----	118 %	53-123%	
EP080/071: Total Petroleum Hydrocarbons	EM1512227--003	Anonymous	C29 - C36 Fraction	----	115 %	64-118%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C10 - C16 Fraction	>C10_C16	114 %	65-123%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C16 - C34 Fraction	----	114 %	67-121%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C34 - C40 Fraction	----	113 %	44-126%	

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								
Soil Glass Jar - Unpreserved (EA055-103)		20-Jul-2015	----	----	----	21-Jul-2015	03-Aug-2015	✓
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)		20-Jul-2015	21-Jul-2015	16-Jan-2016	✓	21-Jul-2015	16-Jan-2016	✓
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							



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
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		20-Jul-2015	21-Jul-2015	17-Aug-2015	✓	22-Jul-2015	17-Aug-2015	✓
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)		20-Jul-2015	22-Jul-2015	17-Aug-2015	✓	22-Jul-2015	29-Jul-2015	✓
SP06/0-0.15								
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK028SF)		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	23-Jul-2015	05-Aug-2015	✓
SP06/0-0.15								
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
Soil Glass Jar - Unpreserved (EP071)		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	22-Jul-2015	31-Aug-2015	✓
SP09/0-0.15,	SP10/0-0.15							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
Soil Glass Jar - Unpreserved (EP075(SIM))		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	22-Jul-2015	31-Aug-2015	✓
SP02/0-0.15,	SP05/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	03-Aug-2015	✓
SP06/0-0.15,	SP09/0-0.15,							
SP10/0-0.15								



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)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	12	16.67	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	10.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	10.53	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	11	18.18	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



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	
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



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	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 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 (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
WAD Cyanide by Segmented Flow Analyser	EK028SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3 - dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) 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	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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	(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.



Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	(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.

QUALITY CONTROL REPORT

Work Order	: EM1512238	Page	: 1 of 15
Client	: ENVIRONMENTAL SITE ASSESSMENTS PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Contact	: Carol Walsh
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: seton@envirositeassessments.com	E-mail	: carol.walsh@alsglobal.com
Telephone	: ----	Telephone	: +61-3-8549 9608
Facsimile	: ----	Facsimile	: +61-3-8549 9601
Project	: TMG-Anglesea	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 20-Jul-2015
C-O-C number	: ----	Date Analysis Commenced	: 21-Jul-2015
Sampler	: AIDAN STEPHENS	Issue Date	: 24-Jul-2015
Site	: ----	No. of samples received	: 10
Quote number	: ----	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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



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



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ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Bronwyn Sheen	Client Services Manager	Melbourne Organics
Chris Lemaitre	Non-Metals Team Leader	Melbourne Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Herman Lin	Laboratory Manager	Melbourne Inorganics
Nancy Wang	Senior Semivolatile Instrument Chemist	Melbourne Inorganics
		Melbourne Organics
Steven McGrath	Technical Manager - Client Services	Melbourne Inorganics

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 (QC Lot: 160081)									
EM1512238-001	SP01/0-0.15	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	13.0	11.9	8.89	0% - 50%
EM1512240-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	7.8	8.2	4.91	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 159740)									
EM1512222-021	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	610	580	4.99	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	26	27	0.00	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	8	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	19	19	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	8	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	130	130	0.00	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	32	36	11.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EM1512238-001	SP01/0-0.15	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	20	10	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	21	0.00	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	8	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	10	10	0.00	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	13	12	0.00	No Limit
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	50	47	4.89	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	86	81	6.30	0% - 50%
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 159741)									
EM1512222-021	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1512238-001	SP01/0-0.15	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 160917)									



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 (%)
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 160917) - continued									
EM1512207-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1512302-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 161050)									
EM1512212-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 160014)									
EM1512228-003	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: 4,4`-DDD	72-54-8	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: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-BHC	319-84-6	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: beta-BHC	319-85-7	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: cis-Chlordane	5103-71-9	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: Dieldrin	60-57-1	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	72-20-8	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: Endrin ketone	53494-70-5	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: Heptachlor	76-44-8	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: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.20	<0.20	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	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: 160010)									
EM1512212-001	Anonymous	EP068: Azinphos Methyl	86-50-0	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: Carbophenothion	786-19-6	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: Chlorpyrifos	2921-88-2	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: Demeton-S-methyl	919-86-8	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: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



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 (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 160010) - continued									
EM1512212-001	Anonymous	EP068: Dimethoate	60-51-5	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: Fenamiphos	22224-92-6	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: Malathion	121-75-5	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: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068C: Triazines (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068D: Pyrethroids (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 160013)									
EM1512228-003	Anonymous	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 160665)									
EM1512207-004	Anonymous	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit



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 (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 160013)									
EM1512228-003	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	0.5	mg/kg	0.7	<0.5	34.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.7	1.1	43.8	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.4	0.8	53.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	1.7	1.1	42.3	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.9	0.5	54.9	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	0.5	34.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.4	1.0	32.7	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): Fluoranthene	206-44-0	0.5	mg/kg	3.9	2.4	47.3	No Limit
		EP075(SIM): Fluorene	86-73-7	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	0.7	<0.5	37.4	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.3	1.7	31.6	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.6	2.1	53.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 160665)									
EM1512207-004	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	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): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160012)									
EM1512228-003	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit



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 (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EM1512252-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160666)									
EM1512289-005	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM1512207-004	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 160012)									
EM1512228-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	130	<100	24.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	130	<50	88.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EM1512252-001	Anonymous	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: 160666)									
EM1512289-005	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	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM1512207-004	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	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	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: Toluene	108-88-3	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
EM1512252-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



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 (%)
EP080: BTEXN (QC Lot: 160018) - continued									
EM1512252-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)
				Concentration		LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 159740)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	94.9	79	113
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	108	92	116
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	108	77	125
EG005T: Boron	7440-42-8	50	mg/kg	<50	33.2 mg/kg	87.8	84	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.3	87	115
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	99.2	89	113
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16 mg/kg	102	81	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	100.0	90	116
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	102	85	107
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	98.1	87	113
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	100	89	111
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	101	93	109
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	95.6	81	117
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.3	89	111
EG035T: Total Recoverable Mercury by FIMS (QCLot: 159741)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	89.9	85	103
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 160917)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	87.0	80	120
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050)								
EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	20 mg/kg	106	86	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 160014)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	55	135
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010)								
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	50	134
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	51	131
EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	114	38	140
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	52	128
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	114	45	133
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	110	57	135
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	112	46	134
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	112	52	132
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	51	131
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	112	52	128
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	51	131



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010) - continued								
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	50	132
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	41	141
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	38	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	52	132
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	49	133
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	48	128
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	84.6	52	130
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	109	43	133
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	110	41	141
EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	0.5 mg/kg	119	58	138
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	51	131
EP068B: Organophosphorus Pesticides (OP) (QCLot: 160010)								
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	38.2	14	162
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	53	131
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	115	51	133
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	50	134
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	54	135
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	100	53	131
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.3	41	141
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	111	53	131
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	34	134
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	69.3	43	139
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	51	133
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	56.0	46	138
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	51	131
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	81.4	51	133
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	11.4	10	184
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.4	51	135
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.8	49	133
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	51	133
EP068C: Triazines (QCLot: 160010)								
EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.5 mg/kg	117	54	138
EP068D: Pyrethroids (QCLot: 160010)								
EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	0.5 mg/kg	98.8	54	132
EP075(SIM)A: Phenolic Compounds (QCLot: 160013)								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	84.9	57	119
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	82.8	54	120
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.1	61	117



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)A: Phenolic Compounds (QCLot: 160013) - continued								
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	99.7	66	114
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.5	65	117
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	103	67	113
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	91.3	66	114
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	79.8	56	116
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.8	62	122
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	85.1	57	119
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	54.5	16	124
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	112	65	113
EP075(SIM)A: Phenolic Compounds (QCLot: 160665)								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	57	119
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.4	54	120
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	104	61	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	107	66	114
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.4	65	117
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	100.0	67	113
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	103	66	114
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	94.3	56	116
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	105	62	122
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	57	119
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	71.4	16	124
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	102	65	113
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	# 123	68	114
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	91.7	61	125
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	113	68	116
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	86.6	62	116
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	82.4	64	114
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	94.9	64	114
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	95.8	59	117
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	105	67	115
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	109	63	119
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	90.4	62	114
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	111	67	115
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	112	62	120
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.8	62	116
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	107	65	119
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	# 120	69	113



Sub-Matrix: **SOIL**

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)		
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	109	66	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160665)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	68	114
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	61	125
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	108	68	116
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	108	62	116
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.0	64	114
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	100	64	114
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	104	59	117
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	108	67	115
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	106	63	119
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	105	62	114
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	103	67	115
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	107	62	120
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	107	62	116
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	105	65	119
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	113	69	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	100	66	116
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	658 mg/kg	103	65	131
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3160 mg/kg	101	70	126
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1448 mg/kg	102	70	122
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160018)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.3	66	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160666)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	658 mg/kg	104	65	131
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3160 mg/kg	105	70	126
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1448 mg/kg	104	70	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160012)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	1051 mg/kg	100	68	130
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4124 mg/kg	102	72	116
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	161 mg/kg	116	38	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160018)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.7	64	128

Matrix Spike (MS) Report

Sub-Matrix: SOIL

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
EG005T: Total Metals by ICP-AES (QCLot: 159740)							
EM1512222-024	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	99.0	78	124
		EG005T: Barium	7440-39-3	50 mg/kg	114	71	135
		EG005T: Beryllium	7440-41-7	50 mg/kg	112	85	125
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	84	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79	121
		EG005T: Copper	7440-50-8	50 mg/kg	106	82	124
		EG005T: Lead	7439-92-1	50 mg/kg	101	76	124
		EG005T: Manganese	7439-96-5	50 mg/kg	# 136	68	136
		EG005T: Nickel	7440-02-0	50 mg/kg	98.3	78	120
		EG005T: Selenium	7782-49-2	50 mg/kg	94.5	71	125
		EG005T: Vanadium	7440-62-2	50 mg/kg	98.4	76	124
		EG005T: Zinc	7440-66-6	50 mg/kg	98.9	74	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 159741)							
EM1512222-024	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.2	76	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 160917)							
EM1512207-002	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	65.6	58	114
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050)							



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
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050) - continued							
EM1512212-002	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	20 mg/kg	92.4	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 160014)							
EM1512238-006	SP06/0-0.15	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	116	44	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010)							
EM1512212-002	Anonymous	EP068: 4,4`-DDT	50-29-3	0.5 mg/kg	106	20	133
		EP068: Aldrin	309-00-2	0.5 mg/kg	110	23	136
		EP068: Dieldrin	60-57-1	0.5 mg/kg	104	42	136
		EP068: Endrin	72-20-8	0.5 mg/kg	101	23	146
		EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.0	22	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	91.6	18	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 160010)							
EM1512212-002	Anonymous	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	95.4	45	133
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	85.8	41	127
		EP068: Diazinon	333-41-5	0.5 mg/kg	102	49	135
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	82.9	47	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	87.7	40	128
EP075(SIM)A: Phenolic Compounds (QCLot: 160013)							
EM1512222-015	Anonymous	EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	105	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.3	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	90.2	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	66.5	15	139
		EP075(SIM): Phenol	108-95-2	3 mg/kg	107	63	117
EP075(SIM)A: Phenolic Compounds (QCLot: 160665)							
EM1512227-002	Anonymous	EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	101	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	87.1	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	69.0	15	139
		EP075(SIM): Phenol	108-95-2	3 mg/kg	109	63	117
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013)							
EM1512222-015	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	110	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	114	52	148
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160665)							
EM1512227-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	105	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	121	52	148
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012)							
EM1512222-008	Anonymous	EP071: C10 - C14 Fraction	----	658 mg/kg	109	53	123



Sub-Matrix: **SOIL**

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
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012) - continued							
EM1512222-008	Anonymous	EP071: C15 - C28 Fraction	----	3160 mg/kg	106	70	124
		EP071: C29 - C36 Fraction	----	1448 mg/kg	106	64	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: C6 - C9 Fraction	----	28 mg/kg	98.6	42	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160666)							
EM1512227-003	Anonymous	EP071: C10 - C14 Fraction	----	658 mg/kg	# 118	53	123
		EP071: C15 - C28 Fraction	----	3160 mg/kg	114	70	124
		EP071: C29 - C36 Fraction	----	1448 mg/kg	# 115	64	118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160012)							
EM1512222-008	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	1051 mg/kg	105	65	123
		EP071: >C16 - C34 Fraction	----	4124 mg/kg	107	67	121
		EP071: >C34 - C40 Fraction	----	161 mg/kg	108	44	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	95.3	39	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160666)							
EM1512227-003	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	1051 mg/kg	# 114	65	123
		EP071: >C16 - C34 Fraction	----	4124 mg/kg	# 114	67	121
		EP071: >C34 - C40 Fraction	----	161 mg/kg	# 113	44	126
EP080: BTEXN (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: Benzene	71-43-2	2 mg/kg	110	50	136
		EP080: Toluene	108-88-3	2 mg/kg	114	56	139

CERTIFICATE OF ANALYSIS

Work Order : **EM1512238**
Client : **ENVIRONMENTAL SITE ASSESSMENTS PTY LTD**
Contact : MR SETON LILLAS
Address : P.O. BOX 3106
 WAURN PONDS VIC 3216
E-mail : seton@envirositeassessments.com
Telephone : ----
Facsimile : ----
Project : TMG-Anglesea
Order number : ----
C-O-C number : ----
Sampler : AIDAN STEPHENS
Site : ----

Quote number : ----

Page : 1 of 13
Laboratory : Environmental Division Melbourne
Contact : Carol Walsh
Address : 4 Westall Rd Springvale VIC Australia 3171

E-mail : carol.walsh@alsglobal.com
Telephone : +61-3-8549 9608
Facsimile : +61-3-8549 9601
QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Date Samples Received : 20-Jul-2015 14:15
Date Analysis Commenced : 21-Jul-2015
Issue Date : 24-Jul-2015 17:18

No. of samples received : 10
No. of samples analysed : 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Bronwyn Sheen	Client Services Manager	Melbourne Organics
Chris Lemaitre	Non-Metals Team Leader	Melbourne Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Herman Lin	Laboratory Manager	Melbourne Inorganics
Nancy Wang	Senior Semivolatile Instrument Chemist	Melbourne Inorganics
		Melbourne Organics
Steven McGrath	Technical Manager - Client Services	Melbourne Inorganics



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.

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.

- 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), Dibenzo(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	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1	%		13.0	15.4	18.4	16.8	10.6
EG005T: Total Metals by ICP-AES									
Barium	7440-39-3	10	mg/kg		----	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		----	----	----	----	----
Boron	7440-42-8	50	mg/kg		----	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		----	----	----	----	----
Manganese	7439-96-5	5	mg/kg		----	----	----	----	----
Selenium	7782-49-2	5	mg/kg		----	----	----	----	----
Vanadium	7440-62-2	5	mg/kg		----	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		9	12	23	13	29
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		21	25	39	22	22
Copper	7440-50-8	5	mg/kg		<5	6	11	7	26
Lead	7439-92-1	5	mg/kg		10	8	29	18	12
Nickel	7440-02-0	2	mg/kg		<2	3	4	4	<2
Zinc	7440-66-6	5	mg/kg		86	40	61	239	234
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		----	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		----	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		----	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		----	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg		----	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	----	----
Mirex	2385-85-5	0.2	mg/kg		----	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.05	mg/kg		----	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	----	----
EP068C: Triazines									
Atrazine	1912-24-9	0.05	mg/kg		----	----	----	----	----
EP068D: Pyrethroids									
Bifenthrin	82657-04-3	0.05	mg/kg		----	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	----	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	----	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	0.6	----	----	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	1.2	----	----	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		----	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		----	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		----	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	----	----	----	----
>C10 - C16 Fraction	>C10_C16	50	mg/kg		----	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		----	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		----	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP01/0-0.15	SP02/0-0.15	SP03/0-0.15	SP04/0-0.15	SP05/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-001	EM1512238-002	EM1512238-003	EM1512238-004	EM1512238-005
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	95.6	----	----	94.8
2-Chlorophenol-D4	93951-73-6	0.5	%		----	101	----	----	100
2,4,6-Tribromophenol	118-79-6	0.5	%		----	76.0	----	----	77.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	92.6	----	----	106
Anthracene-d10	1719-06-8	0.5	%		----	105	----	----	101
4-Terphenyl-d14	1718-51-0	0.5	%		----	95.5	----	----	93.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1	%		7.9	13.9	11.0	5.7	1.9
EG005T: Total Metals by ICP-AES									
Barium	7440-39-3	10	mg/kg		<10	----	----	----	----
Beryllium	7440-41-7	1	mg/kg		<1	----	----	----	----
Boron	7440-42-8	50	mg/kg		<50	----	----	----	----
Cobalt	7440-48-4	2	mg/kg		<2	----	----	----	----
Manganese	7439-96-5	5	mg/kg		13	----	----	----	----
Selenium	7782-49-2	5	mg/kg		<5	----	----	----	----
Vanadium	7440-62-2	5	mg/kg		65	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		13	7	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		27	12	9	20	4
Copper	7440-50-8	5	mg/kg		<5	<5	8	41	<5
Lead	7439-92-1	5	mg/kg		<5	10	24	<5	11
Nickel	7440-02-0	2	mg/kg		<2	2	3	139	<2
Zinc	7440-66-6	5	mg/kg		9	35	277	64	42
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg		<0.5	----	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	1	mg/kg		<1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
Mirex	2385-85-5	0.2	mg/kg		<0.20	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP068C: Triazines									
Atrazine	1912-24-9	0.05	mg/kg		<0.05	----	----	----	----
EP068D: Pyrethroids									
Bifenthrin	82657-04-3	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	<0.5	<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		<0.5	----	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<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
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	----	----	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	----	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg		<50	----	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<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
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		105	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		103	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SP06/0-0.15	SP07/0-0.15	SP08/0-0.15	SP09/0-0.15	SP10/0-0.15
Client sampling date / time					[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]	[20-Jul-2015]
Compound	CAS Number	LOR	Unit		EM1512238-006	EM1512238-007	EM1512238-008	EM1512238-009	EM1512238-010
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		89.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		104	----	----	97.9	99.1
2-Chlorophenol-D4	93951-73-6	0.5	%		109	----	----	105	106
2,4,6-Tribromophenol	118-79-6	0.5	%		77.8	----	----	78.4	80.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		110	----	----	93.6	94.4
Anthracene-d10	1719-06-8	0.5	%		112	----	----	110	107
4-Terphenyl-d14	1718-51-0	0.5	%		108	----	----	101	97.2
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		105	----	----	118	113
Toluene-D8	2037-26-5	0.2	%		83.1	----	----	115	91.0
4-Bromofluorobenzene	460-00-4	0.2	%		95.9	----	----	117	99.1

QUALITY CONTROL REPORT

Work Order	: EM1512238	Page	: 1 of 15
Client	: ENVIRONMENTAL SITE ASSESSMENTS PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Contact	: Carol Walsh
Address	: P.O. BOX 3106 WAURN PONDS VIC 3216	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: seton@envirositeassessments.com	E-mail	: carol.walsh@alsglobal.com
Telephone	: ----	Telephone	: +61-3-8549 9608
Facsimile	: ----	Facsimile	: +61-3-8549 9601
Project	: TMG-Anglesea	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 20-Jul-2015
C-O-C number	: ----	Date Analysis Commenced	: 21-Jul-2015
Sampler	: AIDAN STEPHENS	Issue Date	: 24-Jul-2015
Site	: ----	No. of samples received	: 10
Quote number	: ----	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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



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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Bronwyn Sheen	Client Services Manager	Melbourne Organics
Chris Lemaitre	Non-Metals Team Leader	Melbourne Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Herman Lin	Laboratory Manager	Melbourne Inorganics
Nancy Wang	Senior Semivolatile Instrument Chemist	Melbourne Inorganics
		Melbourne Organics
Steven McGrath	Technical Manager - Client Services	Melbourne Inorganics

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%.

Laboratory Duplicate (DUP) Report

EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 160917)



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 (%)
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 160917) - continued									
EM1512207-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1512302-001	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 161050)									
EM1512212-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 160014)									
EM1512228-003	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: 4,4`-DDD	72-54-8	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: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-BHC	319-84-6	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: beta-BHC	319-85-7	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: cis-Chlordane	5103-71-9	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: Dieldrin	60-57-1	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	72-20-8	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: Endrin ketone	53494-70-5	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: Heptachlor	76-44-8	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: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Mirex	2385-85-5	0.05	mg/kg	<0.20	<0.20	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	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: 160010)									
EM1512212-001	Anonymous	EP068: Azinphos Methyl	86-50-0	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: Carbophenothion	786-19-6	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: Chlorpyrifos	2921-88-2	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: Demeton-S-methyl	919-86-8	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: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



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 (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 160010) - continued									
EM1512212-001	Anonymous	EP068: Dimethoate	60-51-5	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: Fenamiphos	22224-92-6	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: Malathion	121-75-5	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: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068C: Triazines (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068D: Pyrethroids (QC Lot: 160010)									
EM1512212-001	Anonymous	EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 160013)									
EM1512228-003	Anonymous	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 160665)									
EM1512207-004	Anonymous	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit



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 (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 160013)									
EM1512228-003	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	0.5	mg/kg	0.7	<0.5	34.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.7	1.1	43.8	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.4	0.8	53.4	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	1.7	1.1	42.3	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.9	0.5	54.9	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	0.5	34.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.4	1.0	32.7	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): Fluoranthene	206-44-0	0.5	mg/kg	3.9	2.4	47.3	No Limit
		EP075(SIM): Fluorene	86-73-7	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	0.7	<0.5	37.4	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.3	1.7	31.6	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.6	2.1	53.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 160665)									
EM1512207-004	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	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): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160012)									
EM1512228-003	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit



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 (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EM1512252-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 160666)									
EM1512289-005	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM1512207-004	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
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 160012)									
EM1512228-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	130	<100	24.5	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	130	<50	88.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EM1512252-001	Anonymous	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: 160666)									
EM1512289-005	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	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EM1512207-004	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	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 160018)									
EM1512207-004	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	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: Toluene	108-88-3	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
EM1512252-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



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 (%)
EP080: BTEXN (QC Lot: 160018) - continued									
EM1512252-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 159740)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	94.9	79	113
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	108	92	116
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	108	77	125
EG005T: Boron	7440-42-8	50	mg/kg	<50	33.2 mg/kg	87.8	84	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.3	87	115
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	99.2	89	113
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16 mg/kg	102	81	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	100.0	90	116
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	102	85	107
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	98.1	87	113
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	100	89	111
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	101	93	109
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	95.6	81	117
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.3	89	111
EG035T: Total Recoverable Mercury by FIMS (QCLot: 159741)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	89.9	85	103
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 160917)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	87.0	80	120
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050)								
EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	20 mg/kg	106	86	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 160014)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	55	135
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010)								
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	50	134
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	51	131
EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	114	38	140
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	52	128
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	114	45	133
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	110	57	135
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	112	46	134
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	112	52	132
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	51	131
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	112	52	128
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	51	131



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010) - continued								
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	50	132
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	41	141
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	38	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	52	132
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	49	133
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.2	48	128
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	84.6	52	130
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	109	43	133
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	110	41	141
EP068: Mirex	2385-85-5	0.05	mg/kg	<0.05	0.5 mg/kg	119	58	138
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	51	131
EP068B: Organophosphorus Pesticides (OP) (QCLot: 160010)								
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	38.2	14	162
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	53	131
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	115	51	133
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	50	134
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	54	135
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	100	53	131
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.3	41	141
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	111	53	131
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	34	134
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	69.3	43	139
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	51	133
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	56.0	46	138
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	51	131
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	81.4	51	133
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	11.4	10	184
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.4	51	135
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.8	49	133
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	51	133
EP068C: Triazines (QCLot: 160010)								
EP068: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.5 mg/kg	117	54	138
EP068D: Pyrethroids (QCLot: 160010)								
EP068: Bifenthrin	82657-04-3	0.05	mg/kg	<0.05	0.5 mg/kg	98.8	54	132
EP075(SIM)A: Phenolic Compounds (QCLot: 160013)								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	84.9	57	119
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	82.8	54	120
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	99.1	61	117



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)A: Phenolic Compounds (QCLot: 160013) - continued								
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	99.7	66	114
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.5	65	117
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	103	67	113
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	91.3	66	114
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	79.8	56	116
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	98.8	62	122
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	85.1	57	119
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	54.5	16	124
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	112	65	113
EP075(SIM)A: Phenolic Compounds (QCLot: 160665)								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	99.0	57	119
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	96.4	54	120
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	104	61	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	107	66	114
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	90.4	65	117
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	100.0	67	113
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	103	66	114
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	94.3	56	116
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	105	62	122
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	96.8	57	119
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	71.4	16	124
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	102	65	113
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	# 123	68	114
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	91.7	61	125
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	113	68	116
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	86.6	62	116
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	82.4	64	114
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	94.9	64	114
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	95.8	59	117
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	105	67	115
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	109	63	119
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	90.4	62	114
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	111	67	115
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	112	62	120
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.8	62	116
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	107	65	119
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	# 120	69	113



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	109	66	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160665)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	104	68	114
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	106	61	125
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	108	68	116
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	108	62	116
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.0	64	114
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	100	64	114
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	104	59	117
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	108	67	115
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	106	63	119
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	105	62	114
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	103	67	115
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	107	62	120
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	107	62	116
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	105	65	119
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	113	69	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	100	66	116
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	658 mg/kg	103	65	131
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3160 mg/kg	101	70	126
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1448 mg/kg	102	70	122
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160018)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	83.3	66	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160666)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	658 mg/kg	104	65	131
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3160 mg/kg	105	70	126
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1448 mg/kg	104	70	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160012)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	1051 mg/kg	100	68	130
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4124 mg/kg	102	72	116
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	161 mg/kg	116	38	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160018)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	82.7	64	128

Matrix Spike (MS) Report

Sub-Matrix: SOIL

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
EG005T: Total Metals by ICP-AES (QCLot: 159740)							
EM1512222-024	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	99.0	78	124
		EG005T: Barium	7440-39-3	50 mg/kg	114	71	135
		EG005T: Beryllium	7440-41-7	50 mg/kg	112	85	125
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	84	116
		EG005T: Chromium	7440-47-3	50 mg/kg	101	79	121
		EG005T: Copper	7440-50-8	50 mg/kg	106	82	124
		EG005T: Lead	7439-92-1	50 mg/kg	101	76	124
		EG005T: Manganese	7439-96-5	50 mg/kg	# 136	68	136
		EG005T: Nickel	7440-02-0	50 mg/kg	98.3	78	120
		EG005T: Selenium	7782-49-2	50 mg/kg	94.5	71	125
		EG005T: Vanadium	7440-62-2	50 mg/kg	98.4	76	124
		EG005T: Zinc	7440-66-6	50 mg/kg	98.9	74	128
EG035T: Total Recoverable Mercury by FIMS (QCLot: 159741)							
EM1512222-024	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	91.2	76	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 160917)							
EM1512207-002	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	65.6	58	114
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050)							



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
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 161050) - continued							
EM1512212-002	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	20 mg/kg	92.4	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 160014)							
EM1512238-006	SP06/0-0.15	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	116	44	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 160010)							
EM1512212-002	Anonymous	EP068: 4,4`-DDT	50-29-3	0.5 mg/kg	106	20	133
		EP068: Aldrin	309-00-2	0.5 mg/kg	110	23	136
		EP068: Dieldrin	60-57-1	0.5 mg/kg	104	42	136
		EP068: Endrin	72-20-8	0.5 mg/kg	101	23	146
		EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.0	22	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	91.6	18	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 160010)							
EM1512212-002	Anonymous	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	95.4	45	133
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	85.8	41	127
		EP068: Diazinon	333-41-5	0.5 mg/kg	102	49	135
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	82.9	47	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	87.7	40	128
EP075(SIM)A: Phenolic Compounds (QCLot: 160013)							
EM1512222-015	Anonymous	EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	105	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	93.3	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	90.2	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	66.5	15	139
		EP075(SIM): Phenol	108-95-2	3 mg/kg	107	63	117
EP075(SIM)A: Phenolic Compounds (QCLot: 160665)							
EM1512227-002	Anonymous	EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	106	65	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	101	40	134
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	87.1	56	122
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	69.0	15	139
		EP075(SIM): Phenol	108-95-2	3 mg/kg	109	63	117
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160013)							
EM1512222-015	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	110	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	114	52	148
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 160665)							
EM1512227-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	105	67	117
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	121	52	148
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012)							
EM1512222-008	Anonymous	EP071: C10 - C14 Fraction	----	658 mg/kg	109	53	123



Sub-Matrix: **SOIL**

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
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160012) - continued							
EM1512222-008	Anonymous	EP071: C15 - C28 Fraction	----	3160 mg/kg	106	70	124
		EP071: C29 - C36 Fraction	----	1448 mg/kg	106	64	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: C6 - C9 Fraction	----	28 mg/kg	98.6	42	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 160666)							
EM1512227-003	Anonymous	EP071: C10 - C14 Fraction	----	658 mg/kg	# 118	53	123
		EP071: C15 - C28 Fraction	----	3160 mg/kg	114	70	124
		EP071: C29 - C36 Fraction	----	1448 mg/kg	# 115	64	118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160012)							
EM1512222-008	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	1051 mg/kg	105	65	123
		EP071: >C16 - C34 Fraction	----	4124 mg/kg	107	67	121
		EP071: >C34 - C40 Fraction	----	161 mg/kg	108	44	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	95.3	39	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 160666)							
EM1512227-003	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	1051 mg/kg	# 114	65	123
		EP071: >C16 - C34 Fraction	----	4124 mg/kg	# 114	67	121
		EP071: >C34 - C40 Fraction	----	161 mg/kg	# 113	44	126
EP080: BTEXN (QCLot: 160018)							
EM1512238-006	SP06/0-0.15	EP080: Benzene	71-43-2	2 mg/kg	110	50	136
		EP080: Toluene	108-88-3	2 mg/kg	114	56	139

QA/QC Compliance Assessment for DQO Reporting

Work Order	: EM1512238	Page	: 1 of 7
Client	: ENVIRONMENTAL SITE ASSESSMENTS PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MR SETON LILLAS	Telephone	: +61-3-8549 9608
Project	: TMG-Anglesea	Date Samples Received	: 20-Jul-2015
Site	: ----	Issue Date	: 24-Jul-2015
Sampler	: AIDAN STEPHENS	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** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	QC-160013-001	----	Acenaphthene	83-32-9	123 %	68-114%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	QC-160013-001	----	Phenanthrene	85-01-8	120 %	69-113%	Recovery greater than upper control limit
Miscellaneous							
EG005T: Total Metals by ICP-AES	EM1512222--024	Anonymous	Manganese	7439-96-5	136 %	68-136%	
EP080/071: Total Petroleum Hydrocarbons	EM1512227--003	Anonymous	C10 - C14 Fraction	----	118 %	53-123%	
EP080/071: Total Petroleum Hydrocarbons	EM1512227--003	Anonymous	C29 - C36 Fraction	----	115 %	64-118%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C10 - C16 Fraction	>C10_C16	114 %	65-123%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C16 - C34 Fraction	----	114 %	67-121%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	EM1512227--003	Anonymous	>C34 - C40 Fraction	----	113 %	44-126%	

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								
Soil Glass Jar - Unpreserved (EA055-103)	20-Jul-2015	----	----	----	21-Jul-2015	03-Aug-2015	✓	
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)	20-Jul-2015	21-Jul-2015	16-Jan-2016	✓	21-Jul-2015	16-Jan-2016	✓	
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							



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
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		20-Jul-2015	21-Jul-2015	17-Aug-2015	✓	22-Jul-2015	17-Aug-2015	✓
SP01/0-0.15,	SP02/0-0.15,							
SP03/0-0.15,	SP04/0-0.15,							
SP05/0-0.15,	SP06/0-0.15,							
SP07/0-0.15,	SP08/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)		20-Jul-2015	22-Jul-2015	17-Aug-2015	✓	22-Jul-2015	29-Jul-2015	✓
SP06/0-0.15								
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK028SF)		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	23-Jul-2015	05-Aug-2015	✓
SP06/0-0.15								
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
Soil Glass Jar - Unpreserved (EP071)		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	22-Jul-2015	31-Aug-2015	✓
SP09/0-0.15,	SP10/0-0.15							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	30-Aug-2015	✓
SP06/0-0.15								
Soil Glass Jar - Unpreserved (EP075(SIM))		20-Jul-2015	22-Jul-2015	03-Aug-2015	✓	22-Jul-2015	31-Aug-2015	✓
SP02/0-0.15,	SP05/0-0.15,							
SP09/0-0.15,	SP10/0-0.15							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)		20-Jul-2015	21-Jul-2015	03-Aug-2015	✓	22-Jul-2015	03-Aug-2015	✓
SP06/0-0.15,	SP09/0-0.15,							
SP10/0-0.15								



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)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	12	16.67	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	10.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	10.53	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	11	18.18	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	10.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	12	8.33	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.50	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



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	
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	1	19	5.26	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
WAD Cyanide by Segmented Flow Analyser	EK028SF	1	4	25.00	5.00	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



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	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 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 (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
WAD Cyanide by Segmented Flow Analyser	EK028SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3 - dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) 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	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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	(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.



Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	(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

LAB: ALS	TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A Ice / frozen ice bricks present? Yes No N/A Random Sample Temperature on Receipt: C Other comment:	
CLIENT: ENVIRONMENTAL SITE ASSESSMENTS	QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OR: 1 2 3 4 5 6 7	
OFFICE: PO BOX 3106, WAURN PONDS VIC 3216	PROJECT: TMH- Anglesca	PROJECT MANAGER: Seton Lias	
SAMPLER: A. Stephens	SAMPLER MOBILE: 0428889276	CONTACT PH: 0433 747 1878	RELINQUISHED BY: A. Stephens DATE/TIME: 20/7/15 14:15 Method of Delivery: ☒ Hand Delivered ☐ Courier ☐ Postal
Email Reports to: office@esagroup.com.au	RECEIVED BY: Bhanathi CALS DATE/TIME: 20/7/15 14:15	RELINQUISHED BY:	RECEIVED BY:
Email Invoice to: accounts@esagroup.com.au	COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		

SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)				CONTAINER INFORMATION		ANALYSIS REQUIRED					Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE	TOTAL CONTAINERS							
1	SP01/0-0.15	20/7/15	S	Soil Jar	1	NEG	P21/19	S-26	ESAI5	S-2		
2	SP02/0-0.15								X	X		
3	SP03/0-0.15									X		
4	SP04/0-0.15								X	X		
5	SP05/0-0.15											
6	SP06/0-0.15					X						
7	SP07/0-0.15									X		
8	SP08/0-0.15									X		
9	SP09/0-0.15							X				
10	SP10/0-0.15							X				
TOTAL					10	1	2	2	5			

Environmental Division
Melbourne
Work Order Reference
EM1512238



Telephone : +61-3-8549 9600



Attachment 3: Comparison Tables

	BTEX								Halogenated Benzenes	Halogenated Phenols						Herbicides	Inorganics	Lead	Metals																		
	Benzene	Ethylbenzene	Toluene	Total BTEX	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol	Atrazine	Moisture	Lead	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Manganese	Mercury	Nickel	Selenium	Vanadium	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.2	0.5	0.5	0.2	0.5	0.5	0.5	10	0.05	0.5	0.5	0.5	0.5	0.5	2	0.05	1	5	5	10	1	50	1	0.5	2	2	5	5	0.1	2	5	5	5	0.05	0.05	0.05	0.05
NEPM 2013 Table 1A(1) HILs Res A Soil									10						100	320		300	100		60	4500	20	100		100	6000	3800	40	400	200		7400			6	

LocCode	Field_ID	Sampled_Date-Time																																				
SP01	SP01/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	10	9	-	-	-	<1	-	21	-	<5	-	<0.1	<2	-	-	86	-	-	-	-
SP02	SP02/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.4	8	12	-	-	-	<1	-	25	-	6	-	<0.1	3	-	-	40	-	-	-	-
SP03	SP03/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.4	29	23	-	-	-	<1	-	39	-	11	-	<0.1	4	-	-	61	-	-	-	-
SP04	SP04/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.8	18	13	-	-	-	<1	-	22	-	7	-	<0.1	4	-	-	239	-	-	-	-
SP05	SP05/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.6	12	29	-	-	-	<1	-	22	-	26	-	<0.1	<2	-	-	234	-	-	-	-
SP06	SP06/0-0.15	20/07/2015	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	<0.05	<0.5	<0.5	<0.5	<0.5	<2	<0.05	7.9	<5	13	<10	<1	<50	<1	<0.5	27	<2	<5	13	<0.1	<2	<5	65	9	<0.05	<0.05	<0.05	<0.05
SP07	SP07/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9	10	7	-	-	-	<1	-	12	-	<5	-	<0.1	2	-	-	35	-	-	-	-
SP08	SP08/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	24	<5	-	-	-	<1	-	9	-	8	-	<0.1	3	-	-	277	-	-	-	-
SP09	SP09/0-0.15	20/07/2015	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	-	-	-	-	-	-	-	5.7	<5	<5	-	-	-	<1	-	20	-	41	-	<0.1	139	-	-	64	-	-	-	-
SP10	SP10/0-0.15	20/07/2015	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<10	-	-	-	-	-	-	-	1.9	11	<5	-	-	-	<1	-	4	-	<5	-	<0.1	<2	-	-	42	-	-	-	-

	Organochlorine Pesticides																			Organophosphorous Pesticides																PAH						
	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	Benzo[b,j]fluoranthene	2,4-dimethylphenol	2-methylphenol	2-nitrophenol	3-&4-methylphenol	4-chloro-3-methylphenol	Acenaphthene	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	1	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil							240		270				10				6		300						160																	

LocCode	Field_ID	Sampled_Date-Time																																								
SP01	SP01/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SP02	SP02/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5
SP03	SP03/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP04	SP04/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP05	SP05/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5
SP06	SP06/0-0.15	20/07/2015	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5		
SP07	SP07/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP08	SP08/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP09	SP09/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5
SP10	SP10/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	<0.5	

	PAH/Phenols																Pesticides						Polychlorinated Biphenyls	TPH											
	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Carcinogenic PAHs as B(a)P TPE	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Phenol	Pyrene	Bifenthrin	Demeton-S-methyl	Fenamiphos	Mirex	Parathion	Pirimphos-ethyl	PCBs (Sum of total)	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	C6-C10
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	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	0.5	0.5	0.05	0.05	0.05	0.05	0.2	0.05	0.1	50	100	100	50	10	50	100	100	50	50	10
NEPM 2013 Table 1A(1) HILs Res A Soil						3								300		3000		600			10			1											

LocCode	Field_ID	Sampled_Date-Time																																			
SP01	SP01/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SP02	SP02/0-0.15	20/07/2015	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SP03	SP03/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SP04	SP04/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SP05	SP05/0-0.15	20/07/2015	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
SP06	SP06/0-0.15	20/07/2015	<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	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.1	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10		
SP07	SP07/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
SP08	SP08/0-0.15	20/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
SP09	SP09/0-0.15	20/07/2015	<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	-	-	-	-	-	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10		
SP10	SP10/0-0.15	20/07/2015	<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	-	-	-	-	-	-	-	<50	<100	<100	<50	<10	<50	<100	<100	<50	<50	<10		



Attachment 4: Sample Points



Phone: 0433 747 187
seton@envirositeassessments.com
PO Box 3106,
Waurn Ponds, VIC 3216
www.envirositeassessments.com

Legend



Sample Point

Aerial sourced from Nearmap

Designed: A.Stephens

Revision: 1

Drawn: A.Stephens

Date: 27.07.15

File: Sample Locations.pdf



0 Metres 5

Title: Sample Locations

Project: TGM Group - Anglesea

Location: 69B Harvey Street, Anglesea

Client: TGM Group



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Legend



Sample Point

Aerial sourced from Nearmap

Designed: A.Stephens

Revision: 1

Drawn: A.Stephens

Date: 27.07.15

File: Sample Locations.pdf



0 Metres 5

Title: Sample Locations
Project: TGM Group - Anglesea
Location: 69B Harvey Street, Anglesea
Client: TGM Group