4 October 2022

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Erilyan
1/27 Hotham Parade
Artarmon NSW 2064

Attention: **Florian Hasche**

Dear Florian

Limited Soil Contamination Assessment Report
Albury Wodonga Private Hospital
1125 Pemberton Street, West Albury NSW 2640

1 Introduction

Erilyan ("the client") engaged SLR consulting Australia Pty Ltd ("SLR") to undertake a limited soil contamination assessment in the footprint of proposed development ("the assessment area") at the Albury Wodonga Private Hospital located at 1125 Pemberton Street, West Albury NSW. SLR understands that the proposed development includes new buildings for rehabilitation purposes, including two gyms, a pool, consultation rooms and a reception/lounge.

The objective of this work was to assess for contamination in shallow soil across the assessment area to assist with soil management during the proposed development works. Under direction from the Client, the assessment was limited to the top 0.15 m of the soil profile.

1.1 Scope of works

The scope of works undertaken to meet the aforementioned objective is summarised in **Table 1.**

Table 1 Scope of Works Summary.

Tasks	Works Completed
Site Inspection	
Site Inspection	• Inspected the site setting including topography and soil types. • Assessed the site for features and/or infrastructure which indicate the conducting of potentially contaminating activities or storage of hazardous materials currently or historically. • Assessed the surrounding area for other potential sources of contamination.
Limited Soil Contamination Investigation	
Fieldwork Preparation	• Prepared a work plan for the site with pre-defined sample locations, with opportunity to modify the scope based on the site inspection. • Prepared field forms. • Prepared a safe work method statement (SWMS) for all tasks being undertaken in the field.

Tasks	Works Completed
	• Conducted a 'Dial Before You Dig' (DBYD) enquiry to identify for underground services or assets and review the provided service plans.
Intrusive Investigation	• Undertook soil sampling at ten locations to a maximum depth of 0.15 m. • Tested soil samples for either a broad range of analytes or the contaminants of potential concern (CoPC) at a NATA accredited laboratory.
Report Preparation	
Prepared this report, detailing the results of the soil investigation with consideration of the NSW Waste Classification Guidelines (EPA NSW, 2014).	

2 Site Description

The site is situated at 1125 Pemberton Street, West Albury NSW and the proposed development will include areas inside and outside existing buildings in the north-west of the hospital. It is understood that the slab within existing buildings that are being demolished and re-developed (patient rooms) is to remain. Therefore, soil excavation and management, and the assessment area, is limited to existing outdoor areas within the development footprint, as shown in red in **Figure 1** below. It is estimated that the assessment area is approximately 1,600 m^2.

Figure 1 Assessment Area Boundary in Red (Source: Nearmap 2022)

2.1 Geological Setting

Based on the review of 1:50,000 Albury Geological Map (Index 8225-I Zone 55) produced by Geological Survey of Victoria, the site is underlain by the following geological units:

- Quaternary aged Coonambidgal Formation consisting of swamp deposits of grey coloured clays, sands and gravels.
- Pleistocene aged Shepparton Formation consisting of red-brown clay, silt, sands and gravel.
- Upper Ordovician aged Barnawartha Gneissic Granodiorite consisting of fine to medium grained biotite sillimanite schist.

3 Site Inspection

An experienced SLR Environmental Engineer conducted an inspection of the site on 14 September 2022 and the main observations made can be summarised by:

- A mound was identified in the north-east of the assessment area which indicated the potential for imported fill in this area.
- No other evidence of potentially contaminating activities was identified (i.e., activities or infrastructure).

3.1 Potential Contamination Sources and Contaminants of Concern

Based on the site inspection and current site use, the main potential source of contamination was considered to be the importation of fill during previous site developments. The main contaminants of concern commonly associated with imported fill are metals and polycyclic aromatic hydrocarbons (PAH).

4 Soil Investigation

The methodology and results of the soil investigation are detailed in the following sections.

4.1 Soil Sampling Methodology

The scope of method of soil sampling fieldwork is summarised in **Table 2** below.

Table 2 Soil Sampling Scope and Methodology

Activity	Details
Date of Field Activity	14 September 2022
Number of Locations	10 soil bore locations
Sampling Locations and Target Depths	The sample location plan is shown in **Figure 1, Appendix A.** Ten sample locations were extended to a maximum depth of 0.15 m BGL. Given that no point sources of contamination were identified, the sample locations were placed in an approximate grid pattern across the assessment area, with three samples placed in the existing mound area in the north-east of the assessment area.
Service Location	Request and review of utility plans from the Dial Before You Dig service was conducted prior to sampling works.

Activity	Details
Sampling method	Sample locations were advanced with hand tools with samples collected directly from the ground or the spade. Two samples, one at the surface and one at 0.15 m depth, were collected at each location.
In-situ Survey	Soil samples were field screened using a calibrated Photo Ionisation Detector (PID) and noting any odours and any other olfactory signs of contamination.
Soil Logging	The records of the soils encountered, including depths and any relevant observations, were recorded on soil sample field sheets, provided in **Appendix C.**
Sample Collection and Storage	Soil samples were placed into laboratory supplied containers that are labelled with an indelible marker pen and placed immediately in an ice chilled esky.
QA/QC Testing	One blind replicate and one split for every 20 primary samples was collected.
Field Personnel	The fieldwork was undertaken by an experienced environmental engineer in accordance with the agreed scope of work and using methods set out in the SLR sampling procedures
Sample Preservation and Transport	Samples were stored on ice, in an esky while on-site and in transit to the laboratory under Chain of Custody documentation.
Borehole Abandonment	Sample locations were abandoned and backfilled with soil cuttings produced, then levelled with the ground.
Laboratories Used	Samples were submitted to Envirolab Services Pty Ltd (Envirolab) which is National Association of Testing Authorities (NATA) accredited for the analyses requested.

4.2 Adopted Assessment Criteria

Given that the objective of the assessment is to assist with decisions on the management of soil during the proposed development, which may include off-site disposal of soil, assessing results of the soil sampling with respect to waste classification guidelines was considered appropriate.

The following classes of waste are defined in clause 49 of Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act):

- Special waste
- Liquid waste
- Hazardous waste
- Restricted solid waste
- General solid waste (putrescible)
- General solid waste (non-putrescible).

Waste Classification Guidelines Part 1: Classifying waste (EPA NSW, 2014) provides a six-step process for determining which of the above classifications apply to a waste. Table 1 within *Step 5: Determining a waste's classification using chemical assessment* provides maximum contaminant thresholds for General Solid Waste and Restricted Solid Waste for comparison of contaminant concentrations. Results of the soil assessment have been compared to these maximum contaminant thresholds.

4.3 Soil Profile

The general soil conditions observed across the site during the soil sampling program consisted of brown clayey sand and sandy clay with varying amounts of root matter and crushed rock. Soil sample descriptions are provided in **Appendix C**.

4.3.1 Field observations

In addition to the soil descriptions detailed above, PID readings on all soil samples were reported below 5 ppm, indicating low potential for the presence of volatile contaminants. In addition, no odours were observed during sampling, also indicating low potential for the presence of volatile contaminants.

Asbestos, or asbestos containing material was not observed during the field investigation.

4.4 Laboratory Schedule and Results

The following was considered when selecting the laboratory schedule:

- All samples, with the exception of one sample, were analysed for the main contaminants of concern comprising PAH and metals.
- One sample was analysed for a screen of analytes, to assess for the presence any other commonly identified contaminants within fill.
- **Table 3** presents a summary of the individual sample results in consideration of contaminant thresholds (CT) in Table 1 within the EPA Waste Classification Guidelines (EPA, 2014). Tabulated analytical results are provided in **Table 1, Appendix B**. NATA accredited laboratory reports are provided in **Appendix D**.

Table 3 Summary of Analytical Results

Bore Location	Sample Depth (m BGL)	Analysis	Result in comparison to Table 1 of Waste Classification Guidelines
SB01	0.05	PAH and metals	Below CT1 Maximum Value
SB02	0.05	Screen of Analytes[1]	Below CT1 Maximum Value
SB03	0.15	PAH and metals	Below CT1 Maximum Value
SB04	0.05	PAH and metals	Below CT1 Maximum Value
SB05	0.15	PAH and metals	Below CT1 Maximum Value
SB06	0.05	PAH and metals	Below CT1 Maximum Value
SB07	0.15	PAH and metals	Below CT1 Maximum Value
SB08	0.05	PAH and metals	Below CT1 Maximum Value
SB09	0.15	PAH and metals	Below CT1 Maximum Value
SB10	0.05	PAH and metals	Below CT1 Maximum Value

1. Screen of Analytes: Total recoverable hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN), Monocyclic Aromatic Hydrocarbons (MAH), Polycyclic Aromatic Hydrocarbons (PAH), phenols, Chlorinated Hydrocarbons (CHC), Organochlorine Pesticides (OCP), Organophosphorus pesticides (OPP), Halogenated benzenes, Polychlorinated Biphenyls (PCB) and heavy metals

Given that all results were below CT1 threshold limit, calculation of the 95% $UCL_{AVERAGE}$ was not considered required. No toxicity characteristics leaching procedure (TCLP) testing was undertaken.

4.5 Quality Assurance/ Quality Control (QA/QC)

The completeness, representativeness, comparability, accuracy and precision requirements assessment and a detailed review is included in **Appendix B**. Overall, the data is considered to be of a suitable quality of the purpose of this investigation.

5 Conclusion

Based on the laboratory results, soil up to 0.15 m depth within the assessment area comprises a clayey sand or sandy clay fill, with concentrations of contaminants below the CT1 (general solid waste) maximum values provided within Table 1 of the NSW EPA Waste Classification Guidelines Part 1: Classifying Waste.

6 Closure

We trust this letter meets your requirements; however, should you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,

SNEHA BHATTACHAN
Senior Environmental Consultant

Checked/
Authorised by: PJB

7 Limitations

The following information will assist in understanding the uncertainties relating to the interpretation of the data obtained during this investigation and the recommendations presented in the report and help with assessment and interpretation of the report. The limitations here are in addition to those listed in the body of the report.

SLR assumes no responsibility for the quality or accuracy of data obtained from external sources, or for occurrences outside the scope of works defined in this report.

All work conducted, and reports produced by SLR are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between SLR and the Client. Information and/or report(s) prepared by SLR may therefore not be suitable for any use other than the intended objective.

Before passing on to a third party any information and/or report(s) prepared by SLR, the Client is to inform fully the third party of the objective and scope, and all limitations and conditions, including any other relevant information which applies to the information and/or report(s) prepared by SLR.

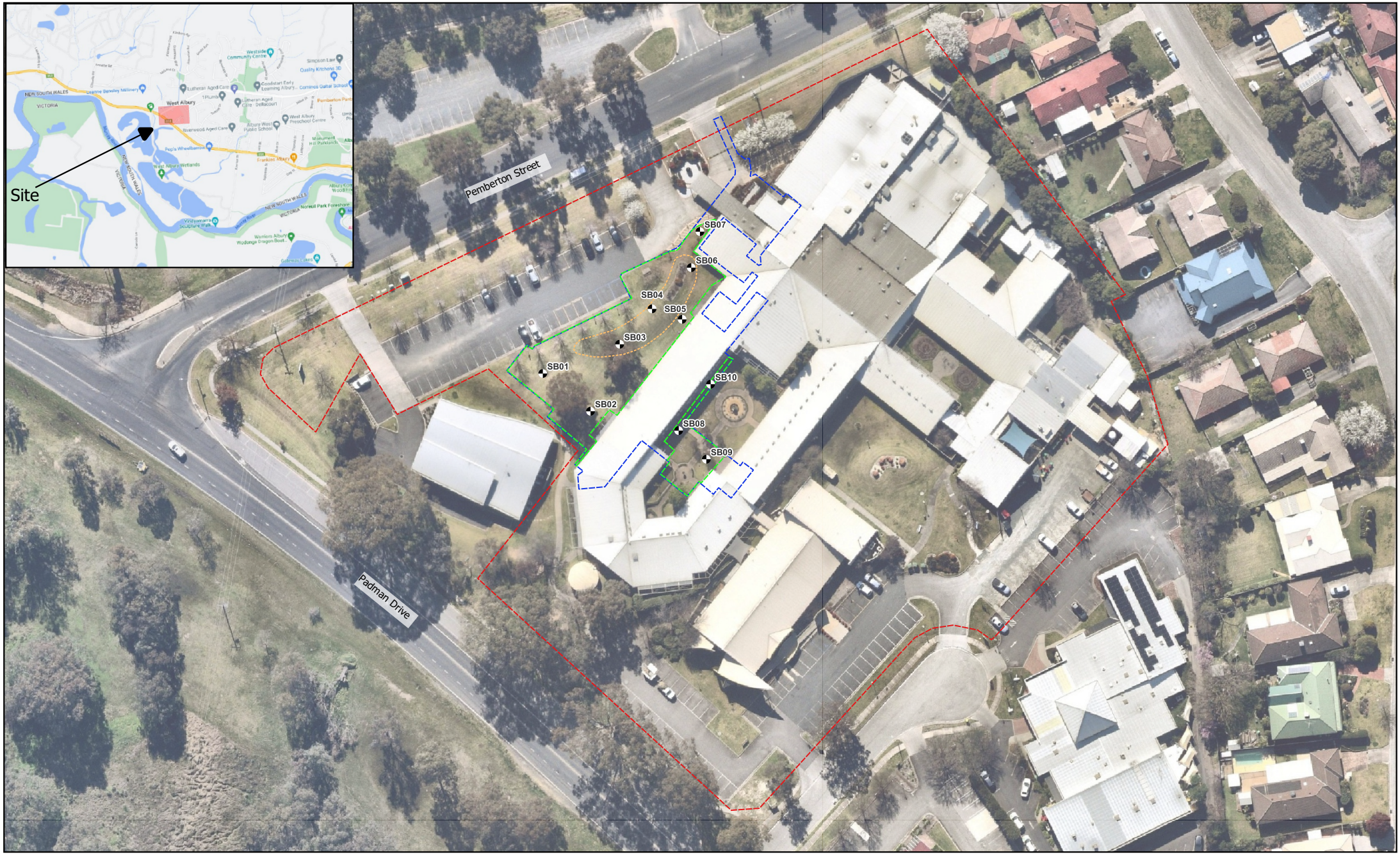
It is the responsibility of third parties to investigate fully to their satisfaction if any information and/or report(s) prepared by SLR, is suitable for a specific objective.

Services were conducted in a conscientious and professional manner. The nature of the task, however, and the likely disproportion between any damage or loss which might arise from the work and any report prepared as a result and the cost of our services is such that SLR cannot guarantee that all issues of concern/contamination have been identified.

The report(s) and/or information produced by SLR should not be reproduced and/or presented/reviewed except in full.

Appendix A

Figures



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Project No.:	640.30541
Date:	04-10-2022
Drawn by:	SB
Scale:	1:1,500
Sheet Size:	@ A4
Projection:	GDA 2020 MGA Zone 55

0 10 20 30 40 m

Legend

- Hospital Site Boundary
- Proposed Development Area
- Assessment Area
- Boreholes

Erilyan

Figure 1

Sample Location Plan
Albury Wodonga Private Hospital

Appendix B

Tables and QC Review

Location Code					SB01	SB02		SB03	SB04	SB05			SB06	SB07		SB08	SB09	SB10
Depth					0.05	0.05	0.15	0.05	0.15	0.05			0.05	0.05	0.15	0.05	0.15	0.05
Date					14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022			14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022
Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Split	Normal	Normal	Normal	Normal	Normal	Normal
Field ID					SB1/0.05	SB2/0.05	SB2/0.15	SB3/0.05	SB4/0.15	SB5/0.05	QC01_140922	QC02_14092022	SB6/0.05	SB7/0.05	SB7/0.15	SB8/0.05	SB9/0.15	SB10/0.05
Lab Report Number					33613	33613	33613	33613	33613	33613	33613	923950	33613	33613	33613	33613	33613	33613
	Unit	EQL	NSW 2014 General Solid Waste CT1 (No Leaching)	NSW 2014 Restricted Solid Waste CT2 (No Leaching)														
Metals																		
Arsenic	mg/kg	2	100	400	<4	5	13	5	8	<4	<4	2.9	6	4	5	4	6	<4
Barium	mg/kg	10			-	-	-	-	-	-	-	69	-	-	-	-	-	-
Beryllium	mg/kg	2	20	80	-	-	-	-	-	-	-	<2	-	-	-	-	-	-
Boron	mg/kg	10			-	-	-	-	-	-	-	<10	-	-	-	-	-	-
Cadmium	mg/kg	0.4	20	80	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium (III+VI)	mg/kg	1			8	10	14	13	14	11	11	12	13	14	12	14	12	12
Chromium (hexavalent)	mg/kg	1	100	400	-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	1			4	6	9	10	8	10	10	11	16	14	9	11	7	15
Antimony	mg/kg	10			-	-	-	-	-	-	-	<10	-	-	-	-	-	-
Molybdenum	mg/kg	1	100	400	<1	<1	<1	<1	<1	<1	1	<5	<1	<1	<1	<1	<1	<1
Silver	mg/kg	1	100	400	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
Tin	mg/kg	1			<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1
Lead	mg/kg	1	100	400	7	9	18	10	13	11	10	11	14	14	12	11	12	11
Mercury	mg/kg	0.1	4	16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	40	160	5	6	8	8	7	7	7	7.2	7	8	7	7	7	7
Selenium	mg/kg	2	20	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc	mg/kg	1			18	25	23	43	20	31	31	33	37	38	22	43	21	59
TRH																		
C6-C10	mg/kg	25			-	<25	-	-	-	-	-	-	-	-	-	-	-	-
C6-C10 (F1 minus BTEX)	mg/kg	25			-	<25	-	-	-	-	-	-	-	-	-	-	-	-
C10-C16	mg/kg	50			-	<50	-	-	-	-	-	-	-	-	-	-	-	-
C10-C16 (F2 minus Naphthalene)	mg/kg	50			-	<50	-	-	-	-	-	-	-	-	-	-	-	-
C16-C34 (F3)	mg/kg	100			-	<100	-	-	-	-	-	-	-	-	-	-	-	-
C34-C40 (F4)	mg/kg	100			-	<100	-	-	-	-	-	-	-	-	-	-	-	-
C10-C40 (Total)	mg/kg	50			-	<50	-	-	-	-	-	-	-	-	-	-	-	-
TPH																		
C6-C9	mg/kg	25	650	2,600	-	<25	-	-	-	-	-	-	-	-	-	-	-	-
C10-C14	mg/kg	50			-	<50	-	-	-	-	-	-	-	-	-	-	-	-
C15-C28	mg/kg	100			-	<100	-	-	-	-	-	-	-	-	-	-	-	-
C29-C36	mg/kg	100			-	<100	-	-	-	-	-	-	-	-	-	-	-	-
C10-C36 (Total)	mg/kg	50	10,000	40,000	-	<50	-	-	-	-	-	-	-	-	-	-	-	-
BTEXN																		
Benzene	mg/kg	0.1	10	40	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.1	288	1,152	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.1	600	2,400	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (m & p)	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (o)	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Xylene Total	mg/kg	1	1,000	4,000	-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene (VOC)	mg/kg	1			-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Total BTEX	mg/kg	1			-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Inorganics																		
Cyanide Total	mg/kg	0.5	320	1,280	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
pH (Lab)	-				-	5.3	-	-	-	-	-	-	-	-	-	-	-	-
Major/minor ions																		
Fluoride	mg/kg	50	3,000	12,000	-	60	-	-	-	-	-	-	-	-	-	-	-	-
MAH																		
Monocylic aromatic hydrocarbons EPAVic	mg/kg	7			-	<7	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.1	60	240	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Phenols																		
2,4,5-Trichlorophenol	mg/kg	0.05	8,000	32,000	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.05	40	160	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.05			-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dichlorophenol	mg/kg	0.05			-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	0.2	4,000	16,000	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/kg	0.2			-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,5-Tetrachlorophenol	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-Tetrachlorophenol	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	mg/kg	0.4	4,000	16,000	-	<0.4	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (halogenated) EPAVic	mg/kg	1			-	<1	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (non-halogenated) EPAVic	mg/kg	50			-	<50	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/kg	4			-	<4	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	2			-	<2	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20			-	<20	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	4			-	<4	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides in s																		
Tot +ve report Chlordane	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Herbicides																		
Dinoseb	mg/kg	5			-	<5	-	-	-	-	-	-	-	-	-	-	-	-
Chlorinated Hydrocarbons																		
Hexachlorobutadiene	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	200	800	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-trichloroethane	mg/kg	0.1	600	2,400	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	26	104	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-trichloroethane	mg/kg	0.1	24	96	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,1-dichloroethene	mg/kg	0.1	14	56	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-dichloroethane	mg/kg	0.1	10	40	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	0.1	10	40	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chlorinated hydrocarbons EPAVic	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	0.1	120	480	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-dichloroethene	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	mg/kg	0.5	172	688	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
Other chlorinated hydrocarbons EPAVic	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	0.1	14	56	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-dichloroethene	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	0.1	10	40	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	0.1	4	16	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
NA																		
Moisture Content	%	0.1			17	26	15	29	14	33	33	-	26	38	18	37	16	35

				Location Code	SB01	SB02		SB03	SB04	SB05			SB06	SB07		SB08	SB09	SB10
				Depth	0.05	0.05	0.15	0.05	0.15	0.05			0.05	0.05	0.15	0.05	0.15	0.05
				Date	14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022			14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022	14-09-2022
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Split	Normal	Normal	Normal	Normal	Normal	Normal
				Field ID	SB1/0.05	SB2/0.05	SB2/0.15	SB3/0.05	SB4/0.15	SB5/0.05	QC01_140922	QC02_14092022	SB6/0.05	SB7/0.05	SB7/0.15	SB8/0.05	SB9/0.15	SB10/0.05
				Lab Report Number	33613	33613	33613	33613	33613	33613	33613	923950	33613	33613	33613	33613	33613	33613
	Unit	EQL	NSW 2014 General Solid Waste CT1 (No Leaching)	NSW 2014 Restricted Solid Waste CT2 (No Leaching)														
Metals																		
Arsenic	mg/kg	2	100	400	<4	5	13	5	8	<4	<4	2.9	6	4	5	4	6	<4
PAH																		
Benzo(b+j+k)fluoranthene	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a) pyrene	mg/kg	0.05	0.8	3.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b+j)fluoranthene	mg/kg	0.5			-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.5			-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
Chrysene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAHs (Sum of total)	mg/kg	0.05	200	800	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	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
Organochlorine Pesticides																		
Chlordane (trans)	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chlordane (cis)	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
d-BHC	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
DDT	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
DDD	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
DDT+DDE+DDD	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Other organochlorine pesticides EPAVic	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
a-BHC	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin + Dieldrin	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
g-BHC (Lindane)	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
b-BHC	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																		
Arochlor 1016	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1221	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1232	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1242	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1248	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1254	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Arochlor 1260	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
PCBs (Sum of total)	mg/kg	0.1	50	50	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Benzenes																		
1,2,4-trichlorobenzene	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,2-dichlorobenzene	mg/kg	0.1	86	344	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
1,4-dichlorobenzene	mg/kg	0.1	150	600	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	0.1	2,000	8,000	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.1			-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-

Environmental Standards
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)

Table 2 - RPD Results

		Field ID	SB5/0.05	QC01_140922	RPD	SB5/0.05	QC02_14092022	RPD
		Date	14-09-2022	14-09-2022		14-09-2022	14-09-2022	
		Sample Type	Normal	Field_D		Normal	Interlab_D	
		Lab Report Number	33613	33613		33613	923950	
	Unit	EQL						
Metals								
Arsenic	mg/kg	2	<4	<4	0	<4	2.9	0
Barium	mg/kg	10	-	-	-	-	69	-
Beryllium	mg/kg	2	-	-	-	-	<2	-
Boron	mg/kg	10	-	-	-	-	<10	-
Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0
Chromium (III+VI)	mg/kg	1	11	11	0	11	12	9
Copper	mg/kg	1	10	10	0	10	11	10
Antimony	mg/kg	10	-	-	-	-	<10	-
Molybdenum	mg/kg	1	<1	1	0	<1	<5	0
Silver	mg/kg	1	<1	<1	0	<1	<2	0
Tin	mg/kg	1	<1	<1	0	<1	<10	0
Lead	mg/kg	1	11	10	10	11	11	0
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	1	7	7	0	7	7.2	3
Selenium	mg/kg	2	<2	<2	0	<2	<2	0
Zinc	mg/kg	1	31	31	0	31	33	6
NA								
Moisture Content	%	0.1	33	33	0	33	-	-
PAH								
Benzo(b+j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-
Acenaphthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Naphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Benz(a)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(a) pyrene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5	-	-	-	-	<0.5	-
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5	-	-	-	-	<0.5	-
Chrysene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Fluoranthene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Fluorene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
Pyrene	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.5	0
PAHs (Sum of total)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.5	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	<0.5	<0.5	0	<0.5	1.2	82
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	<0.5	<0.5	0	<0.5	0.6	18
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix B - Quality Assurance (QA) and Quality Control (QC) Review

This appendix reviews the QA and QC documentation for the assessment. QA encompasses the actions, procedures, checks and decisions undertaken to ensure sample integrity and representativeness, and the reliability and accuracy of analysis results.

The QA documentation should also include an indication of the Data Quality Objectives put in place during the works program in relation to each significant action, test or process involved in the assessment. QC activities measure the effectiveness of the QA procedures by undertaking testing, and then comparing results to previously established objectives.

QC review work includes the internal laboratory testing as well as results of QC samples submitted during field investigations such as blind replicate and splits, trip blanks and spikes, rinsates, trip blank and field blank samples, as applicable.

The QA/QC process was conducted in accordance with the following guidance:

- National Environment Protection Council (NEPC) (1999) National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013. Referred to as ASC NEPM.
- Australian Standard (AS) 4482.1-2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil.
- AS4482.2-1999 (1999) Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances.

Table 1 provides a summary of the QA/QC review process for the assessment. Non-conformance to the SAQP and the QA/QC process are noted at the end of this review.

Table 1 Summary of QA / QC Review

Quality Aspect	Evidence and Evaluation
QA Documentation	
Compliance with Standards	The Assessment was carried out in accordance with the proposed scope of work, as documented in the proposal (A00.010851.PROMO-P01-v3.0-20220826) issued to the client on 26 August 2022.
Work Plan	Prior to mobilising to site a Work Plan was prepared for briefing the field crew.
Quality Control Program	A QC program was implemented during the Assessment and the QA procedures used have been reiterated in the main report.
DQOs	The DQOs were expressed in terms of the purpose of the assessment and the relevant assessment criteria provided in the main report.
Data Representativeness	
Holding Times	All samples were recorded in the Chain of Custody (COC) documentation in accordance with Schedule B2, ASC NEPM and AS4482 which provides evidence of sampling date and times. COC record and laboratory reports provide evidence of holding times.
Off-Site and /or background samples	No off-site and / or background samples were collected, as the scope of the Assessment was limited to targeted soil sampling.
Verification of field procedures	The methodology conducted during this Assessment is documented in the body of the report and was in general conformance with the work plan.
Data Precision & Accuracy – Sample QA/QC Review	

Quality Aspect	Evidence and Evaluation
QC Testing – **Field Duplicate** (Soil Blind Replicates - Primary Lab)	• Acceptance Criteria: RPD < 30% • Soil Samples Analysed: 10 • Blind Replicate Samples Analysed: 1 • Blind Replicate Analyte Pairs: 38 • Number of Analyte Pairs Exceeding Criteria: 0 • Percentage of Analyte Pairs Exceeding Criteria: 0% RPD results are presented in Table 3, Appendix B.
QC Testing – **Field Split** (Soil Blind Replicates – Secondary Lab)	• Acceptance Criteria: RPD < 30% • Soil Samples Analysed: 10 • Blind Replicate Samples Analysed: 1 • Blind Replicate Analyte Pairs: 38 • Number of Analyte Pairs Exceeding Criteria: 0 • Percentage of Analyte Pairs Exceeding Criteria: 0% Benzo(a)pyrene TEQ RPD is due to variable laboratory limit of reporting and is hence not considered an exceedance. RPD results are presented in Table 3, Appendix B.
Data Precision & Accuracy – Sample QA/QC Review	
Trip Blanks	Trip blanks were not collected as part of this assessment.
Laboratory Internal QC	Evidence of the laboratories internal QC testing is present and complete in the reports. Envirolab performed internal QC with adequate testing and satisfactory results for matrix spikes, method blank laboratory control samples and laboratory duplicates. Exceptions included internal RPDs of chromium and lead in sample 33613-1 which failed internal acceptance criteria.
Laboratory Method Detection Limit	Laboratory reports indicate the method detection limits were generally lower than the respective assessment criteria.
National Association of Testing Authorities (NATA) endorsement of laboratory reports	Laboratory reports were certified with the NATA endorsement stamp and signature.
Calibration of Field Equipment	All equipment used during the investigation was calibrated by the supplier prior to use.
Decontamination and Equipment Blanks	Rinsate blanks were not collected as part of this assessment.
Data Comparability	
Standard Procedures	Fieldwork procedures are detailed in the reports and are comparable for each phase of Assessment and were based with consideration of industry standards and guidelines.
Qualified Personnel	Staff involved in managing and reviewing the project and those involved in fieldwork are qualified person(s).
Volatile Losses	There is no evidence of significant volatile losses based on the results of the trip blank sample.
Sample Integrity	All samples were received intact by the laboratory and were stored on ice.
Data Completeness	
Completeness of test program	The scope of work undertaken was generally consistent with that required to characterise the site as set out in the proposal and within relevant industry guidelines detailed previously in this review.
Validity of Data Set	The data quality review indicates no significant systematic errors in the data collection process for soil therefore, the data set used as the basis for the soil investigation is considered valid and complete.

Appendix C

Soil Sample Descriptions

Soil Description Summary

Sample Register			
Client	Erilyan	**Project Manager**	James Bracken
Project Number	640.30541.00000	**Sampler Name**	KK + PB
Project Address	1125 Pemberton Street, West Albury	**Date Commenced**	14 September 2022

SAMPLE ID	DEPTH (m)	DATE	FILL/ NATURAL /SEDIMENT	SAMPLE DESCRIPTION	PID	OTHER COMMENTS
SB01	0.05	14-09-2022	FILL	Clayey SAND (SP), poorly graded, medium grained, brown, loose, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	Top horizon of approximately 0.1 m thickness
SB01	0.15	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown with orange, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	
SB02	0.05	14-09-2022	FILL	Clayey SAND (SP), poorly graded, medium grained, brown, loose, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	Top horizon of approximately 0.1 m thickness
SB02	0.15	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown with orange, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	
SB03	0.05	14-09-2022	FILL	Sandy CLAY (CL), low plasticity, firm, brown, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	Top horizon of approximately 0.1 m thickness
SB03	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine to medium grained, light brown, loose, moist, slight odour, no staining, with high root matter, with crushed rocks (<10 mm)	0.0	
SB04	0.05	14-09-2022	FILL	Sandy CLAY (CL), low plasticity, firm, dark brown, moist, slight odour, no staining	0.0	Top horizon of approximately 0.1 m thickness
SB04	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine to medium grained, light brown, loose, moist, slight odour, no staining, with crushed rocks (<10 mm)	0.0	

Soil Description Summary

SAMPLE ID	DEPTH (m)	DATE	FILL/ NATURAL /SEDIMENT	SAMPLE DESCRIPTION	PID	OTHER COMMENTS
SB05	0.05	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, light brown, moist, slight odour, no staining, with root matter and crushed rocks (<10 mm)	0.0	Top horizon of approximately 0.1 m thickness QC01_140922 and QC02_140922 collected
SB05	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, medium grained, brown, loose, moist, slight odour, no staining, with organic matter	0.0	
SB06	0.05	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown, moist, slight odour, no staining, with root matter	0.0	Top horizon of approximately 0.1 m thickness
SB06	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine grained, light brown, loose, moist, slight odour, no staining, with root matter and pebbles (<20 mm)	0.0	
SB07	0.05	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown, moist, slight odour, no staining, with root matter	0.0	Top horizon of approximately 0.1 m thickness
SB07	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine grained, light brown, loose, moist, slight odour, no staining, with root matter and crushed rock (<5 mm)	0.0	
SB08	0.05	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown, moist, slight odour, no staining, with root matter	0.0	Top horizon of approximately 0.1 m thickness
SB08	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine to medium grained, grey, loose, moist, slight odour, no staining, with root matter and crushed rock (<10 mm)	0.1	
SB09	0.05	14-09-2022	FILL	Clayey SAND (SP), poorly graded, fine to medium grained, brown, loose, moist, slight odour, no staining, with root matter	0.0	Top horizon of approximately 0.1 m thickness
SB09	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, medium grained, light brown, loose, moist, slight odour, no staining, with root matter	0.0	
SB10	0.05	14-09-2022	FILL	Sandy CLAY (CI), moderate plasticity, firm, brown, moist, slight odour, no staining, with root matter	0.0	Top horizon of approximately 0.06 m thickness

Soil Description Summary

SAMPLE ID	DEPTH (m)	DATE	FILL/ NATURAL /SEDIMENT	SAMPLE DESCRIPTION	PID	OTHER COMMENTS
SB10	0.15	14-09-2022	FILL	Clayey SAND (SP), poorly graded, medium grained, loose, moist, slight odour, no staining, with root matter	0.0	

Appendix D

Laboratory Reports

SLR

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

- ☐ BRISBANE: Level 16, 175 Eagle Street, Brisbane
- ☐ GOLD COAST: 194 Varsity Parade, Varsity Lakes, QLD 4227
- ☐ NEWCASTLE: 10 Kings Road, New Lambton NSW 2305
- ☐ SYDNEY: 2 Lincoln Street, Lane Cove, Sydney, NSW 2066
- ☐ NELSON: 6/A Cambridge Street, Richmond, Port Nelson, 7020 NZ
- ☐ CANBERRA: GPO Box 410, Canberra, ACT 2600
- ☐ MACKAY: 21 River Street, Mackay, QLD 4740
- ☐ PERTH: 503 Murray Street, Perth, WA 6000
- ☐ TOWNSVILLE: 12 Cannan St, South Townsville QLD 4810
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ
- ☐ DARWIN: 21 Parap Rd, Darwin, NT 0820
- ☑ MELBOURNE: Lvl 11, 176 Wellington Parade, East Melbourne, VIC 3002
- ☐ ROCKHAMPTON: rockhampton@slrconsulting.com
- ☐ AUCKLAND: 69 Beach Road, Auckland 1010 NZ

CLIENT: Evolve	LABORATORY: Envirolab Services	Turnaround Time (TAT)	COC Number
PROJECT: Albury Hospital	LABORATORY ADDRESS: 25 Research Road, Croydon South VIC	☑ Standard TAT	1 of 2
PROJECT NUMBER: 640.30541.00000	SAMPLER: KK/PB	☐ Non Standard or Urgent TAT	
PROJECT MANAGER: James Bracken	SAMPLER CONTACT No: 0409503291	Required TAT: Standard	
PM CONTACT No: 0422 788 513	Email Reports and Invoices to: Pbay@slrconsulting.com		

COMMENTS OR ADDITIONAL DIRECTIONS

REQUESTED ANALYSIS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	PAH, metals (1825.2)	Pollution 1828.2 Table 3 Section						HOLD	Additional Information (Comment on any gross contamination or specific requirements)
1	SB1|0.05	14/9/22	Soil	ice	X								
2	SB1|0.15											X	
3	SB2|0.05					X							
4	SB2|0.15				X								
5	SB3|0.05				X								
6	SB3|0.15											X	
7	SB4|0.05											X	
8	SB4|0.15				X								
9	SB5|0.05				X								
10	SB5|0.15											X	
11	SB6|0.05				X								

Envirolab Services
25 Research Drive
Croydon South VIC 3136
Ph: (03) 9763 2500

Job No: 33613

Date Received: 15/9/22

Time Received: 12:20pm

Received By: LD

Temp: Cool/Ambient 1.7°C

Cooling: Ice/Icepack

Security: Intact/Broken/None

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

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign	Date / Time 14/09/2022	Received by	Sign	Date / Time	Temperature Received:
Relinquished By	Sign	Date / Time 15/9/2022	Received by	Sign	Date / Time 15 Sep-22	
Relinquished By	Sign	Date / Time	Received by	Sign	Date / Time 15/9/22	

SLR

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

- ☐ BRISBANE: Level 16, 175 Eagle Street, Brisbane
- ☐ CANBERRA: GPO Box 410, Canberra, ACT 2600
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- ☑ MELBOURNE: Lvl 11, 176 Wellington Parade, East Melbourne, VIC 3002
- ☐ NEWCASTLE: 10 Kings Road, New Lambton, NSW 2305
- ☐ PERTH: 503 Murray Street, Perth, WA 6000
- ☐ ROCKHAMPTON: rockhampton@slrconsulting.com
- ☐ SYDNEY: 2 Lincoln Street, Lane Cove, Sydney, NSW 2066
- ☐ TOWNSVILLE: 12 Cunnan St, South Townsville QLD 4810
- ☐ AUCKLAND: 68 Beach Road, Auckland 1010 NZ
- ☐ NELSON: C/A Cambridge Street, Richmond, Port Nelson, 7020 NZ
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ
- ☐

CLIENT: Evilyn	LABORATORY: Envirolab services
PROJECT: Albury Hospital	LABORATORY ADDRESS: 25 Research Road, Croydon South VIC
PROJECT NUMBER: 640.30541.00000	SAMPLER: KK/PB
PROJECT MANAGER: James Brackey	SAMPLER CONTACT No: 0409503291
PM CONTACT No: 0428 788 513	Email Reports and Invoices to: Pbay@slrconsulting.com

Turnaround Time (TAT)

- ☑ Standard TAT
- ☐ Non Standard or Urgent TAT

Required TAT: Standard

COC Number: 2 of 2

COMMENTS OR ADDITIONAL DIRECTIONS

REQUESTED ANALYSIS

	No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	PAH, Metals (1B2B.2)							Field	Additional Information (Comment on any gross contamination or specific requirements)
12		SB6|0.15	14/9/22	Soil	ice								X	
13		SB7|0.05				X								
14		SB7|0.15				X								
15		SB8|0.05				X								
16		SB8|0.15											X	
17		SB9|0.05											X	
18		SB9|0.15				X								
19		SB10|0.05				X								
20		SB10|0.15											X	
21		QC01 - 14092022				X								
22		QC03 - 14092022											X	

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

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign		Date / Time 14/09/2022	Received by	Sign	Date / Time	Temperature Received:
Relinquished By	Sign		Date / Time 15/9/2022	Received by	Sign	Date / Time 15-Sep-2022	
Relinquished By	Sign		Date / Time	Received by	Sign	Date / Time 15/9/9	

Sample Receipt Melbourne

From: Paul Bay <pbay@slrconsulting.com>
Sent: Thursday, 15 September 2022 1:45 PM
To: Sample Receipt Melbourne; Brad O'Reilly
Cc: Gemma Sliz; Alisha Purathattil; Lucy Olsen
Subject: RE: 640.30541.00000 - Sample pickup from SLR Consulting

Hi Lucy,

Apologies for that. Thanks for the info and photos.

Based on review, the two middle samples should be re-labelled as SB7.

Kind regards, Paul

SLR

Paul Bay
Principal Consultant - Land Quality & Remediation

+61 3 9249 9434
+61 3 9249 9400
+61 409 503 291
pbay@slrconsulting.com

SLR Consulting Australia Pty Ltd
Lvl 11, 176 Wellington Parade, East Melbourne, VIC, Australia, 3002

From: Sample Receipt Melbourne <loginvic@envirolab.com.au>
Sent: Thursday, 15 September 2022 12:57 PM
To: Brad O'Reilly <boreilly@slrconsulting.com>
Cc: Paul Bay <pbay@slrconsulting.com>; Gemma Sliz <GSliz@envirolab.com.au>; Alisha Purathattil <APurathattil@envirolab.com.au>; Lucy Olsen <LOlsen@envirolab.com.au>
Subject: RE: 640.30541.00000 - Sample pickup from SLR Consulting

Hi Brad & Paul,

We just received the samples in the lab, and I noticed a couple of discrepancies.

We did not receive any samples labelled "SB7/0.05" or "SB7/0.15".

However, we did receive **2** jars labelled "SB6/0.05" and **2** jars labelled "SB6/0.15".

I have attached images of all four jars.
Can you please confirm which jars belong to which sample ID?

Thank you,
Lucy

Kind Regards,

Sample Receipt Melbourne | Sample Receipt | Envirolab Services

Great Science. Great Service.

25 Research Drive Croydon South VIC 3136
T 03 9763 2500
E loginvic@envirolab.com.au | W www.envirolab.com.au

From: Brad O'Reilly <boreilly@slrconsulting.com>
Sent: Thursday, 15 September 2022 11:42 AM
To: MelbourneMailbox <Melbourne@envirolab.com.au>
Cc: Paul Bay <pbay@slrconsulting.com>
Subject: 640.30541.00000 - Sample pickup from SLR Consulting

Hi Envirolab team,

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 33613

Client Details

Client	SLR Consulting Aust. Pty Ltd (VIC)
Attention	Paul Bay
Address	Level 11, 176 Wellington Parade, EAST MELBOURNE, VIC, 3002

Sample Details

Your Reference	**640.30541.00000**
Number of Samples	22 Soil
Date samples received	15/09/2022
Date completed instructions received	15/09/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	26/09/2022
Date of Issue	26/09/2022

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Chaminda Gunasekara, Inorganics Supervisor
Tara White, Metals Team Leader
Tianna Milburn, Chemist

Authorised By

Pamela Adams, Laboratory Manager

VOCs in soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	17/09/2022
Vinyl Chloride	mg/kg	<0.1
1,1-Dichloroethene	mg/kg	<0.1
methylene chloride	mg/kg	<0.5
trans-1,2-dichloroethene	mg/kg	<0.1
cis-1,2-dichloroethene	mg/kg	<0.1
chloroform	mg/kg	<0.1
1,1,1-trichloroethane	mg/kg	<0.1
carbon tetrachloride	mg/kg	<0.1
Benzene	mg/kg	<0.1
1,2-dichloroethane	mg/kg	<0.1
trichloroethene	mg/kg	<0.1
Toluene	mg/kg	<0.1
1,1,2-trichloroethane	mg/kg	<0.1
tetrachloroethene	mg/kg	<0.1
chlorobenzene	mg/kg	<0.1
Ethylbenzene	mg/kg	<0.1
1,1,1,2-tetrachloroethane	mg/kg	<0.1
m+p-xylene	mg/kg	<0.2
o-Xylene	mg/kg	<0.1
styrene	mg/kg	<0.1
1,1,2,2-tetrachloroethane	mg/kg	<0.1
1,4-dichlorobenzene	mg/kg	<0.1
1,2-dichlorobenzene	mg/kg	<0.1
1,2,4-trichlorobenzene	mg/kg	<0.1
hexachlorobutadiene	mg/kg	<0.1
Total +ve MAHs	mg/kg	<7
Total +ve Chlorinated Hydrocarbons	mg/kg	<0.1
Total +ve Other Chlorinated Hydrocarbons	mg/kg	<0.1
Surrogate aaa-Trifluorotoluene	%	90
Surrogate Dibromofluoromethane	%	99
Surrogate Toluene-d_8	%	100
Surrogate 4-Bromofluorobenzene	%	101

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	17/09/2022
vTRH C_6 - C_9	mg/kg	<25
vTRH C_6 - C_{10}	mg/kg	<25
TRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total BTEX	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	95

TRH Soil C10-C40 NEPM		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	18/09/2022
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	78

PAHs in Soil						
Our Reference		33613-1	33613-3	33613-4	33613-5	33613-8
Your Reference	UNITS	SB1/0.05	SB2/0.05	SB2/0.15	SB3/0.05	SB4/0.15
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d_{14}	%	108	116	108	112	110

PAHs in Soil						
Our Reference		33613-9	33613-11	33613-13	33613-14	33613-15
Your Reference	UNITS	SB5/0.05	SB6/0.05	SB7/0.05	SB7/0.15	SB8/0.05
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d_{14}	%	110	110	110	108	108

PAHs in Soil				
Our Reference		33613-18	33613-19	33613-21
Your Reference	UNITS	SB9/0.15	SB10/0.05	QC01_140922
Date Sampled		14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	17/09/2022	17/09/2022	17/09/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d_{14}	%	110	110	110

Speciated Phenols in Soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	17/09/2022
Phenol	mg/kg	<0.2
2-Chlorophenol	mg/kg	<0.2
2-Methylphenol	mg/kg	<0.2
3/4-Methylphenol	mg/kg	<0.4
2-Nitrophenol	mg/kg	<0.2
2,4-Dimethylphenol	mg/kg	<0.2
2,4-Dichlorophenol	mg/kg	<0.05
2,6-Dichlorophenol	mg/kg	<0.05
2,4,5-Trichlorophenol	mg/kg	<0.05
2,4,6-Trichlorophenol	mg/kg	<0.05
2,4-Dinitrophenol	mg/kg	<4
4-Nitrophenol	mg/kg	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.1
2-Methyl-4,6-Dinitrophenol	mg/kg	<2
Pentachlorophenol	mg/kg	<0.1
4-Chloro-3-Methylphenol	mg/kg	<0.2
2,3,4,5-Tetrachlorophenol	mg/kg	<0.1
2,3,5,6-Tetrachlorophenol	mg/kg	<0.1
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	<20
Dinoseb	mg/kg	<5
Total +ve Phenols Halogenated	mg/kg	<1
Total +ve Phenols non-Halogenated	mg/kg	<50
Surrogate Phenol-d_6	%	84
Surrogate 2-fluorophenol	%	86

Organochlorine Pesticides in soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	17/09/2022
alpha-BHC	mg/kg	<0.1
Hexachlorobenzene	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve Organochlorine Pesticides	mg/kg	<0.1
Total +ve report other OC	mg/kg	<0.1
Tot +ve report Chlordane	mg/kg	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	88

PCBs in Soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date extracted	-	17/09/2022
Date analysed	-	17/09/2022
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate 2-fluorobiphenyl	%	92

Metals in soil						
Our Reference		33613-1	33613-3	33613-4	33613-5	33613-8
Your Reference	UNITS	SB1/0.05	SB2/0.05	SB2/0.15	SB3/0.05	SB4/0.15
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022	19/09/2022	19/09/2022
Arsenic	mg/kg	<4	5	13	5	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	10	14	13	14
Copper	mg/kg	4	6	9	10	8
Lead	mg/kg	7	9	18	10	13
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	5	6	8	8	7
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	18	25	23	43	20

Metals in soil						
Our Reference		33613-9	33613-11	33613-13	33613-14	33613-15
Your Reference	UNITS	SB5/0.05	SB6/0.05	SB7/0.05	SB7/0.15	SB8/0.05
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022	19/09/2022	19/09/2022
Arsenic	mg/kg	<4	6	4	5	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	13	14	12	14
Copper	mg/kg	10	16	14	9	11
Lead	mg/kg	11	14	14	12	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	<1	<1	<1
Nickel	mg/kg	7	7	8	7	7
Tin	mg/kg	<1	<1	<1	<1	<1
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Zinc	mg/kg	31	37	38	22	43

Metals in soil				
Our Reference		33613-18	33613-19	33613-21
Your Reference	UNITS	SB9/0.15	SB10/0.05	QC01_140922
Date Sampled		14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil
Date digested	-	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022
Arsenic	mg/kg	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	12	12	11
Copper	mg/kg	7	15	10
Lead	mg/kg	12	11	10
Mercury	mg/kg	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	<1	1
Nickel	mg/kg	7	7	7
Tin	mg/kg	<1	<1	<1
Selenium	mg/kg	<2	<2	<2
Silver	mg/kg	<1	<1	<1
Zinc	mg/kg	21	59	31

Miscellaneous Inorg - soil		
Our Reference		33613-3
Your Reference	UNITS	SB2/0.05
Date Sampled		14/09/2022
Type of sample		Soil
Date prepared	-	17/09/2022
Date analysed	-	19/09/2022
Total Cyanide	mg/kg	<0.5
Hexavalent Chromium, Cr^{6+}	mg/kg	<1
Total Fluoride	mg/kg	60
pH 1:5 soil:water	pH Units	5.3

Moisture						
Our Reference		33613-1	33613-3	33613-4	33613-5	33613-8
Your Reference	UNITS	SB1/0.05	SB2/0.05	SB2/0.15	SB3/0.05	SB4/0.15
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022	19/09/2022	19/09/2022
Moisture	%	17	26	15	29	14

Moisture						
Our Reference		33613-9	33613-11	33613-13	33613-14	33613-15
Your Reference	UNITS	SB5/0.05	SB6/0.05	SB7/0.05	SB7/0.15	SB8/0.05
Date Sampled		14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	17/09/2022	17/09/2022	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022	19/09/2022	19/09/2022
Moisture	%	33	26	38	18	37

Moisture				
Our Reference		33613-18	33613-19	33613-21
Your Reference	UNITS	SB9/0.15	SB10/0.05	QC01_140922
Date Sampled		14/09/2022	14/09/2022	14/09/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	17/09/2022	17/09/2022	17/09/2022
Date analysed	-	19/09/2022	19/09/2022	19/09/2022
Moisture	%	16	35	33

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105°C for a minimum of 12 hours.
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids/Filters and sorbents are extracted in a caustic media prior to analysis. Impingers are pH adjusted as required prior to analysis. Cyanides amenable to Chlorination - samples are analysed untreated and treated with hypochlorite to assess the potential for chlorination of cyanide forms. Based on APHA latest edition, 4500-CN_G,H. Please note:- i) The amenable to Chlorination test is only carried out for solids where the Total Cyanide result is >50mg/kg. The Category D/industrial waste upper limit for Total Concentrations of Cyanide (amenable) is 300mg/kg (Table 2, VIC EPA 1828.2 March 2021), the lower limit used (250mg/kg) is to accommodate analytical uncertainty. ii) The amenable to Chlorination test is only carried out for leachates where the Total Cyanide result is >1mg/L. The Category D/industrial waste upper limit for Leachable Concentrations of Cyanide (amenable) is 1.75mg/L (Table 2, VIC EPA 1828.2 March 2021), the lower limit used (1mg/L) is to accommodate analytical uncertainty
Inorg-026/53	Fluoride by caustic fusion and determined by ion selective electrode (ISE) analysis.
INORG-118	Hexavalent Chromium by Ion Chromatographic separation and colourimetric determination.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).

Method ID	Methodology Summary
Org-021/022	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD or GC-MS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, For OCs the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, the Total +ve Cresols or Phenols PQL is reflective of the lowest individual PQL and is therefore" Total +ve Cresols or Phenols" is simply a sum of the positive individual Cresols or Phenols.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Vinyl Chloride	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
methylene chloride	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chloroform	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
1,1,1-trichloroethane	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
carbon tetrachloride	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
trichloroethene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Toluene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
tetrachloroethene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
chlorobenzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,1,2-tetrachloroethane	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
o-Xylene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
styrene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
hexachlorobutadiene	mg/kg	0.1	Org-023	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	107	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate Dibromofluoromethane	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate Toluene-d_8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
vTRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
vTRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	105	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	113	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: TRH Soil C10-C40 NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	85	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	85	[NT]
Surrogate o-Terphenyl	%		Org-020	77	[NT]	[NT]	[NT]	[NT]	71	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	33613-15
Date extracted	-			17/09/2022	14	17/09/2022	17/09/2022		17/09/2022	17/09/2022
Date analysed	-			17/09/2022	14	17/09/2022	17/09/2022		17/09/2022	17/09/2022
Naphthalene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	94	101
Acenaphthylene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	100	108
Fluorene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	100	108
Phenanthrene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	104	112
Anthracene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	110	118
Pyrene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	110	120
Benzo(a)anthracene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	94	101
Benzo(b,j&k)fluoranthene	mg/kg	0.2	Org-022	<0.2	14	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022	<0.05	14	<0.05	<0.05	0	110	114
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022	<0.1	14	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-022	112	14	108	108	0	108	108

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Phenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
2-Chlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
2-Methylphenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
3/4-Methylphenol	mg/kg	0.4	Org-022	<0.4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	92	[NT]
2,4,5-Trichlorophenol	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methyl-4,6-Dinitrophenol	mg/kg	2	Org-022	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
4-Chloro-3-Methylphenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Cyclohexyl-4,6-Dinitrophenol	mg/kg	20	Org-022	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dinoseb	mg/kg	5	Org-022	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022	86	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate 2-fluorophenol	%		Org-022	86	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
alpha-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Hexachlorobenzene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
gamma-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
delta-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
alpha-chlordane	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Dieldrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Endrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	138	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Methoxychlor	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022	88	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Aroclor 1016	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Aroclor 1260	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022	94	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: Metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	33613-19
Date digested	-			17/09/2022	1	17/09/2022	17/09/2022		17/09/2022	17/09/2022
Date analysed	-			19/09/2022	1	19/09/2022	19/09/2022		19/09/2022	19/09/2022
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	1	<4	6	40	103	111
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	1	<0.4	<0.4	0	104	105
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	1	8	14	55	104	108
Copper	mg/kg	1	Metals-020 ICP-AES	<1	1	4	6	40	104	107
Lead	mg/kg	1	Metals-020 ICP-AES	<1	1	7	11	44	107	107
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	1	<0.1	<0.1	0	102	95
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	1	<1	<1	0	104	102
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	1	5	7	33	104	104
Tin	mg/kg	1	Metals-020 ICP-AES	<1	1	<1	<1	0	101	99
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	1	<2	<2	0	100	109
Silver	mg/kg	1	Metals-020 ICP-AES	<1	1	<1	<1	0	105	112
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	1	18	23	24	104	101

QUALITY CONTROL: Metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date digested	-			[NT]	18	17/09/2022	17/09/2022		[NT]	[NT]
Date analysed	-			[NT]	18	19/09/2022	19/09/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020 ICP-AES	[NT]	18	6	5	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	[NT]	18	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020 ICP-AES	[NT]	18	12	11	9	[NT]	[NT]
Copper	mg/kg	1	Metals-020 ICP-AES	[NT]	18	7	7	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020 ICP-AES	[NT]	18	12	11	9	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021 CV-AAS	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Molybdenum	mg/kg	1	Metals-020 ICP-AES	[NT]	18	<1	<1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020 ICP-AES	[NT]	18	7	7	0	[NT]	[NT]
Tin	mg/kg	1	Metals-020 ICP-AES	[NT]	18	<1	<1	0	[NT]	[NT]
Selenium	mg/kg	2	Metals-020 ICP-AES	[NT]	18	<2	<2	0	[NT]	[NT]
Silver	mg/kg	1	Metals-020 ICP-AES	[NT]	18	<1	<1	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020 ICP-AES	[NT]	18	21	22	5	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			17/09/2022	[NT]	[NT]	[NT]	[NT]	17/09/2022	[NT]
Date analysed	-			19/09/2022	[NT]	[NT]	[NT]	[NT]	19/09/2022	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	INORG-118	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	<50	[NT]	[NT]	[NT]	[NT]	78	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	98	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

METALS: The RPD for duplicate results 33613-1 for Chromium is accepted due to the inhomogeneous nature of the sample/s. Triplicate analysis confirms this and is available upon request.

SLR

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)
- ☐ BRISBANE: Level 16, 175 Eagle Street, Brisbane
- ☐ CANBERRA: GPO Box 410, Canberra, ACT 2600
- ☐ DARWIN: 2/2 Salonga Rd, Darwin, NT 0820
- ☐ GOLD COAST: 194 Varsity Parade, Varsity Lakes, QLD 4227
- ☐ MACKAY: 21 River Street, Mackay, QLD 4740
- ☑ MELBOURNE: Level 11, 176 Wellington Parade, East Melbourne, VIC 3002
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- ☐ AUCKLAND: 68 Beach Road, Auckland 1010 NZ
- ☐ NELSON: 6/A Cambridge Street, Richmond, Port Nelson, 7010 NZ
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ

CLIENT: Eriljan

PROJECT: Albury Hospital

PROJECT NUMBER: 640.30541.00000

PROJECT MANAGER: Jane Bracken

PM CONTACT No: 0428 788 513

LABORATORY: Eurofins Scientific

LABORATORY ADDRESS: 6 Monterey Rd, Dandenong South VIC

SAMPLER: KK/PB

SAMPLER CONTACT No: 0409 503291

Email Reports and Invoices to: Pbay@slrconsulting.com

Turnaround Time (TAT)
- ☑ Standard TAT
- ☐ Non Standard or Urgent TAT

Required TAT: Standard

COC Number: 1 of 1

COMMENTS OR ADDITIONAL DIRECTIONS

Please forward this sample to Eurofins

REQUESTED ANALYSIS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc.)	Containers and Preservatives	PAH, metals (8270.2)								Hold	Additional Information (Comment on any gross contamination or specific requirements)
	QC02 – 14092022	14/9/22	soil	ice	X									
	QC04 – 14092022	14/9/22	soil	ice									X	
	#923950													
	15/09/22													15/9 3.40
														yes
														16.7 Cooler Tw
														to.2
														16.9

Sample Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Bisulphate Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; U = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles; G = unpreserved glass soil jar;

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign: KJ Thom	Date / Time: 14/09/2022	Received by	Sign:	Date / Time	Temperature Received:
Relinquished By	Sign:	Date / Time: 15/9/2022	Received by	Sign: LO	Date / Time: 15/9/22	
Relinquished By	Sign: AP ELS Melb	Date / Time: 15/9/22	Received by	Sign:	Date / Time	

SLR Consulting (Vic)
Suite 2, Grd Flr, 2 Domville Ave
Hawthorn
VIC 3122

Attention: **James Bracken**

Report **923950-S**
Project name ALBURY HOSPITAL
Project ID 640.30541.00000
Received Date Sep 15, 2022

Client Sample ID			**QC02_14092022**
Sample Matrix			**Soil**
Eurofins Sample No.			**M22-Se0034351**
Date Sampled			**Sep 14, 2022**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	124
p-Terphenyl-d14 (surr.)	1	%	97
Heavy Metals			
Antimony	10	mg/kg	< 10
Arsenic	2	mg/kg	2.9
Barium	10	mg/kg	69
Beryllium	2	mg/kg	< 2
Boron	10	mg/kg	< 10
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	12
Copper	5	mg/kg	11
Lead	5	mg/kg	11
Mercury	0.1	mg/kg	< 0.1
Molybdenum	5	mg/kg	< 5

Client Sample ID			QC02_14092022
Sample Matrix			**Soil**
Eurofins Sample No.			**M22-Se0034351**
Date Sampled			**Sep 14, 2022**
Test/Reference	LOR	Unit	
Heavy Metals			
Nickel	5	mg/kg	7.2
Selenium	2	mg/kg	< 2
Silver	2	mg/kg	< 2
Tin	10	mg/kg	< 10
Zinc	5	mg/kg	33
% Moisture	1	%	33

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Melbourne	Sep 16, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals Vic EPA 1828.2 (excluding TBT)	Melbourne	Sep 16, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Sep 15, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins

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Company Name: SLR Consulting (Vic)
Address: Suite 2, Grd Flr, 2 Domville Ave
Hawthorn
VIC 3122

Project Name: ALBURY HOSPITAL
Project ID: 640.30541.00000

Order No.:
Report #: 923950
Phone: 03 9249 9400
Fax:

Received: Sep 15, 2022 3:40 PM
Due: Sep 26, 2022
Priority: 5 Day
Contact Name: James Bracken

Eurofins Analytical Services Manager : Harry Bacalis

Sample Detail						HOLD	Polycyclic Aromatic Hydrocarbons	Moisture Set	Metals Vic EPA 1828.2 (excluding TBT)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC02_14092022	Sep 14, 2022		Soil	M22-Se0034351		X	X	X
2	QC04_14092022	Sep 14, 2022		Soil	M22-Se0034352	X			
Test Counts						1	1	1	1

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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

Results <10 times the LOR: No Limit

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

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

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	75			70-130	Pass	
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(g.h.i)perylene	%	74			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	91			70-130	Pass	
Dibenz(a.h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	81			70-130	Pass	
Fluorene	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	90			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	90			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	97			80-120	Pass	
Arsenic	%	95			80-120	Pass	
Barium	%	96			80-120	Pass	
Beryllium	%	100			80-120	Pass	
Boron	%	95			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	95			80-120	Pass	
Lead	%	101			80-120	Pass	
Mercury	%	99			80-120	Pass	
Molybdenum	%	97			80-120	Pass	
Nickel	%	94			80-120	Pass	
Selenium	%	95			80-120	Pass	
Silver	%	105			80-120	Pass	
Tin	%	96			80-120	Pass	
Zinc	%	92			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M22-Se0036915	NCP	%	97			70-130	Pass	
Acenaphthylene	M22-Se0036915	NCP	%	94			70-130	Pass	
Anthracene	M22-Se0036915	NCP	%	88			70-130	Pass	
Benz(a)anthracene	M22-Se0036915	NCP	%	103			70-130	Pass	
Benzo(a)pyrene	M22-Se0036915	NCP	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	M22-Se0036915	NCP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	M22-Se0036915	NCP	%	83			70-130	Pass	
Benzo(k)fluoranthene	M22-Se0036915	NCP	%	96			70-130	Pass	
Chrysene	M22-Se0036915	NCP	%	98			70-130	Pass	
Dibenz(a.h)anthracene	M22-Se0036915	NCP	%	112			70-130	Pass	
Fluoranthene	M22-Se0036915	NCP	%	97			70-130	Pass	
Fluorene	M22-Se0036915	NCP	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M22-Se0036915	NCP	%	99			70-130	Pass	
Naphthalene	M22-Se0036915	NCP	%	102			70-130	Pass	
Phenanthrene	M22-Se0036915	NCP	%	106			70-130	Pass	
Pyrene	M22-Se0036915	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	B22-Se0035564	NCP	%	108			75-125	Pass	
Arsenic	B22-Se0035564	NCP	%	109			75-125	Pass	
Barium	B22-Se0035564	NCP	%	118			75-125	Pass	
Beryllium	B22-Se0035564	NCP	%	116			75-125	Pass	
Boron	M22-Se0034178	NCP	%	106			75-125	Pass	
Cadmium	M22-Se0034178	NCP	%	81			75-125	Pass	
Chromium	B22-Se0035564	NCP	%	109			75-125	Pass	
Copper	B22-Se0035564	NCP	%	120			75-125	Pass	
Lead	B22-Se0035564	NCP	%	115			75-125	Pass	
Mercury	B22-Se0035564	NCP	%	110			75-125	Pass	
Molybdenum	B22-Se0035564	NCP	%	112			75-125	Pass	
Nickel	B22-Se0035564	NCP	%	108			75-125	Pass	
Selenium	B22-Se0035564	NCP	%	109			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Silver	B22-Se0035564	NCP	%	113			75-125	Pass	
Tin	B22-Se0035564	NCP	%	113			75-125	Pass	
Zinc	B22-Se0035564	NCP	%	125			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M22-Se0034588	NCP	mg/kg	1.3	1.4	7.9	30%	Pass	
Phenanthrene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M22-Se0034588	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	B22-Se0035563	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	B22-Se0035563	NCP	mg/kg	7.6	7.3	3.6	30%	Pass	
Barium	B22-Se0035563	NCP	mg/kg	390	400	2.7	30%	Pass	
Beryllium	B22-Se0035563	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	B22-Se0035563	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Cadmium	B22-Se0035563	NCP	mg/kg	1.4	1.5	8.9	30%	Pass	
Chromium	B22-Se0035563	NCP	mg/kg	24	25	2.1	30%	Pass	
Copper	B22-Se0035563	NCP	mg/kg	680	680	<1	30%	Pass	
Lead	B22-Se0035563	NCP	mg/kg	38	40	5.2	30%	Pass	
Mercury	B22-Se0035563	NCP	mg/kg	0.6	0.6	8.0	30%	Pass	
Molybdenum	B22-Se0035563	NCP	mg/kg	9.3	10	9.0	30%	Pass	
Nickel	B22-Se0035563	NCP	mg/kg	27	26	6.0	30%	Pass	
Selenium	B22-Se0035563	NCP	mg/kg	8.5	9.3	9.4	30%	Pass	
Silver	B22-Se0035563	NCP	mg/kg	3.2	3.0	5.6	30%	Pass	
Tin	B22-Se0035563	NCP	mg/kg	58	59	<1	30%	Pass	
Zinc	B22-Se0035563	NCP	mg/kg	1200	1200	1.2	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M22-Se0034442	NCP	%	15	14	6.1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Harry Bacalis	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Sample Properties

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.