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Material Analysis and Classification Report

200 Aldington Road, Kemps Creek NSW

Document information

Report Title:	Material Analysis and Classification Report
Prepared for:	AT&L on behalf of FIFE Capital Pty Ltd
Project Address:	200 Aldington Road, Kemps Creek NSW
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Document control

Version	Date	Author	Revision description	Reviewer
v1f	7/8/2024	Andrew Hunt	Final for issue	Junaid Riaz

For and on behalf of
ADE Consulting Group Pty Ltd
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Date: 8/7/2024 4:43 PM +10'00'

Junaid Riaz
Associate Environmental Consultant

1 Summary

Table 1. Summary of site information.

Site information	
Client:	AT&L on behalf of FIFE Capital Pty Ltd
Date of field work:	7/08/2024
Site address:	200 Aldington Road, Kemps Creek NSW
Subject Area:	Approximately 420 metres (m) north-east of the Simmons site compound at 200 Aldington Road (refer to **Appendix A – Figure**).
Background Information:	ADE Consulting Group (ADE) was advised by the client that the stockpiled soil material had been sourced from recent asbestos segregation activities occurring within the project. It is understood that the material has originated from batches of material which contained levels of asbestos above acceptable limits (refer to **Appendix A – Figure**).
Stockpile Volume:	Approximately 512 m^3 ☐advised by client. ☒estimated by ADE. 32 m (Length) x 8 m (Width) x 2 m (Height).
Material Description:	The stockpiled soil materials generally consisted of: • Silty Sandy CLAY: low to medium plasticity, medium brown, with fine grained sand, with sub-angular gravels, moist. Foreign materials including but not limited to asbestos containing materials (ACM), bricks and plastic were observed within the stockpiled materials. No strong visual or olfactory indicators of acid sulfate soils (ASS), paint chips or hydrocarbon odours/staining were noted within the stockpiled materials (refer to **Appendix B – Photographs**).
Acid Sulfate risk:	A review of the ASS risk mapping located at NSW Department of Planning, Industry and Environment 2021 online portal Espade v2.1 (environment.nsw.gov.au/eS-pade2WebApp), was undertaken to establish the potential for ASS at the source site. The source site was identified as no data available regarding ASS risk (refer to *Appendix C – Supporting Documents*). At the time of the inspection, no strong visual or olfactory indicators of ASS (staining, odour, seashells etc.) were noted during the field works. Based on the desktop review and field observations, ADE considered that the materials are unlikely to contain ASS and no further assessment was warranted.
EPA online records:	A review of the NSW Environment Protection Authority (EPA) *'Contaminated land – record of notices'* and the *'List of NSW Contaminated sites notified to the EPA'* listed by the NSW EPA under the Contaminated Land Management Act 1997, confirmed that the source site and surrounding lands within close proximity (<250m) were not listed on any EPA records (refer to **Appendix C – Supporting Documents**).
Per- and polyfluoroalkyl substances (PFAS) risk:	A review of the NSW EPA's PFAS Investigation Program map did not identify the Site as a PFAS legacy site. Additionally, no activities associated with PFAS were conducted at the source site (refer to **Appendix C – Supporting Documents**). Based on the desktop review, it is in the opinion of ADE that the site is 'low risk' with regards to the potential PFAS contamination.
Potential contaminating activities:	Potentially contaminating activities were considered to include: • Local construction activities and material handling processes. • Historical potential for importation and use of uncontrolled fill. • Confirmed asbestos contamination due to asbestos segregation activities.
Regulatory framework:	The soil materials in the subject area were compared/classified in accordance with: ☒ *NSW Environment Protection Authority (NSW EPA) (2014). Waste Classification Guidelines - Part 1: Classifying waste.*
Soil disposal options:	☒ Off-site disposal

2 Sampling and Analysis

Table 2. Summary of sampling and analysis.

Sampling plan				
Contaminants of potential concern:	Based on the client's request and regulatory requirements, the following contaminants of potential concern were analysed: ☒ Heavy Metals – Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, and Zinc; ☒ Benzene, Toluene, Ethyl-Benzene and Total Xylenes (BTEX); ☒ Total Petroleum Hydrocarbons (TPHs); ☒ Polycyclic Aromatic Hydrocarbons (PAHs); ☒ Polychlorinated Biphenyls (PCBs); ☒ Organochlorine Pesticides (OCPs); ☒ Organophosphorus Pesticides (OPPs); and ☒ Asbestos			
Sampling guidance:	The samples were collected in accordance/consideration with: ☒ Table 4 and 5 as referenced within the NSW EPA (2022). *Sampling design part 1 – application (Contaminated Land Guidelines)*.			
Sampling Plan:	Number of sampling locations: 10 Number of samples per location: 1 Sample Type: Discrete Sampling Pattern: Systematic Depth of samples (Sample ID-metres below stockpile surface [m BSS]): MAC1_TP1 (0.7), MAC1_TP2 (0.8), MAC1_TP3 (0.5), MAC1_TP4 (0.5), MAC1_TP5 (0.6), MAC1_TP6 (0.7), MAC1_TP7 (0.6), MAC1_TP8 (0.7), MAC1_TP9 (0.6), and MAC1_TP10 (0.5).			
	Heavy metals, BTEX, TPHs, PAHs, PCBs, OCPs, OPPs	10	Asbestos (500mL NEPM)	3
	Asbestos ID (65g bag)	10	Asbestos ID (Bulk)	2
Sampling method:	☒ Test Pit (via client supplied excavator) ☐ Borehole ☐ Other Representative test pits were advanced across the stockpile with the assistance of an excavator to a maximum depth of 0.8 m BSS. All samples were collected using dedicated nitrile gloves within the centre of the excavator bucket to minimise potential cross-contamination between sampling locations. All samples requiring chemical analysis were placed in glass jars with Teflon lined lids and relocated into a pre-chilled cooler carrier. All samples requiring asbestos analysis were placed within polyethylene zip-lock bags.			
Decontamination procedure:	ADE's standard decontamination procedures were undertaken before collecting each of the samples to avoid the possibility of cross-contamination. Dedicated disposable materials (e.g., nitrile gloves) were used which were changed between each sample. As such, additional decontamination procedures were not deemed necessary. All disposable sampling equipment and rubbish was collected and removed prior to leaving the site.			
Statistical evaluation:	In accordance with the nominated guidelines, the sample results were evaluated by: ☒ Maximum concentration.			
Additional analysis and methods:	☐ Toxicity Characteristics Leaching Procedure (TCLP) ☐ Australian Standard Leaching Procedure (ASLP) ☐ Silica gel clean-up ☐ Quad analysis ☐ High volume analysis			
Laboratory:	Sydney Laboratory Services (SLS) Pty Ltd.			
Laboratory results:	Refer to **Table 4** for a summary of analytical results and **Appendix D – Results Table**.			
Sample photos:	Refer to **Appendix B – Photographs**.			

3 Waste Classification Assessment

Table 3 below summarises Step 1 to Step 6 of the NSW EPA (2014), *Waste Classification Guidelines: Part 1 –*

Classifying Waste.

Table 3. Step 1 to Step 6 of *Waste Classification Guidelines Part 1: Classifying Waste 2014.*

Steps 1 to Step 6 of Waste Classification Guidelines Part 1: Classifying Waste 2014		
Step 1: Is the material special waste? (Clinical and related waste, asbestos waste, waste tyres, and anything classified as special waste under an EPA gazettal notice)	☒ Yes ☐ No Chrysotile asbestos was detected within the 2 fibre cement samples (Frag1 & Frag2) and the 3 representative 500mL NEPM soil samples which were analysed for asbestos as per AS4964:2004. All asbestos containing material were identified to be >7mm in size and returned negative for the presence of respirable fibres via trace analysis (Refer to **Appendix E – Analytical reports and chain of custody**).	
Step 2: Is the waste liquid waste?	☐ Yes ☒ No	
Step 3: Is the waste pre-classified?	☐ Yes ☒ No	
Step 4: Does the waste possess hazardous characteristics?	☐ Yes ☒ No	
Step 5: Chemical characterisation of the soil materials	Refer to **Table 4** for a summary of the analytical results. A full set of analytical results and regulatory guidelines screening criteria are shown in **Appendix D – Results Table**. **Summary of Results** All 10 samples submitted for analysis reported chemical concentrations below the specific Contaminant Threshold (CT) for 'General Solid Waste' (CT1). Based on the chemical analysis, the stockpiled materials are therefore considered to be chemically suitable for classification as 'General Solid Waste'.	
Step 6: Is the waste putrescible or non-putrescible?	☐ Putrescible ☒ Non-putrescible	Non-putrescible materials typically do not: • readily decay under standard conditions; • emit offensive odours; or • attract vermin or other vectors (such as flies, birds and rodents).
Waste classification conclusion:	Based on the data and evidence collected over the course of the investigation, it is the opinion of ADE that: Asbestos ☒ was ☐ was not observed within the stockpile and detected within select representative samples analysed for asbestos. Indicators of ASS, paint chips, hydrocarbon staining/odours ☐ was ☒ were not observed within the stockpiled soil materials inspected, and The concentrations of Heavy Metals, TRHs/TPHs, BTEX, PAHs, PCBs, OCPs and OPPs ☒ meet ☐ do not meet The NSW EPA (2014) criteria assigned for '**General Solid Waste**'. The material being excavated and transported for off-site disposal must be from the subject stockpiled soil materials shown below in **Appendix A – Figure** and must be consistent with the waste description provided. If there are any unexpected finds that are not consistent with this classification, please contact ADE immediately.	

Table 4. Summary of analytical results and chemical characterisation of the subject stockpiled soil material.

Analytes	Assessment Criteria		Results			Chemical Characterisation as GSW
	Maximum Values of Total Concentration Assigned for General Solid Waste CT1/CT2 (mg/kg)	Maximum Values of Total Concentration Assigned for General Solid Waste TCLP1 (mg/L) / SCC1 (mg/kg)	Maximum Total Concentration Detected (mg/kg)[3]	95% Upper Confidence Limit (UCL)	Toxicity Leaching Characteristic Procedure (TCLP) (mg/L)	
PAHs						
PAH total	200/800	NA/200	1.46	-	-	Acceptable
Benzo(a)pyrene	0.8/3.2	0.04/10	<0.3	-	-	Acceptable
OCPs						
Endosulfan[1]	60/240	3/108	<0.2	-	-	Acceptable
OPPs						
Chlorpyrifos	4/16	0.2/7.5	0.47	-	-	Acceptable
PCBs						
PCBs (Sum of total)	50/50	NA/<50	<0.5	-	-	Acceptable
TPHs						
TPH $C_6 - C_9$	650/2,600	NA/650	<25	-	-	Acceptable
TPH $C_{10} - C_{36}$	10,000/40,000	NA/10,000	228	-	-	Acceptable
BTEX						
Benzene	10/40	0.5/18	<0.5	-	-	Acceptable
Toluene	288/1,152	14.4/518	<0.5	-	-	Acceptable
Ethyl-benzene	600/2,400	30/1,080	<1.0	-	-	Acceptable
Xylenes	1,000/4,000	50/1,800	<2.0	-	-	Acceptable
Metals						
Arsenic	100/400	5.0/500	9.4	-	-	Acceptable
Cadmium	20/80	1.0/100	<0.1	-	-	Acceptable
Chromium (total) [2]	100/400	5/1,900	46	-	-	Acceptable
Copper	NA	NA	37	-	-	Acceptable
Lead	100/400	5/1,500	44	-	-	Acceptable
Mercury	4/16	0.2/50	0.2	-	-	Acceptable
Nickel	40/160	2/1,050	34	-	-	Acceptable
Zinc	NA	NA	64	-	-	Acceptable

Notes to Table 4

NA.- Not Applicable

1. Endosulfan (CAS Registry Number 115-29-7) means the total of Endosulfan I (CAS Registry Number 959-98-8), Endosulfan II (CAS Registry Number 891-86-1) and Endosulfan sulfate (CAS Registry Number 1031-07-8).
2. Chromium (Total).
3. Results have been rounded to the next significant figure where appropriate.

NA Not Applicable.

4 Classification

Table 5. Material classification & ADE comments.

Material Classification	
Material description:	The stockpiled soil materials generally consisted of: • Silty Sandy CLAY: low to medium plasticity, medium brown, with fine grained sand, with sub-angular gravels, moist. Foreign materials including but not limited to ACM, bricks and plastic were observed within the stockpiled materials. No strong visual or olfactory indicators of ASS, paint chips or hydrocarbon odours/staining were noted within the stockpiled materials.
Approximate volume:	Approximately 512 m^3
Classification:	**Special Waste – Asbestos (General Solid Waste [non-putrescible]).**
Notes:	The material must be transported to a licensed facility which can accept asbestos contaminated waste. The material must also be transported through a licensed transportation service which can handle asbestos contaminated waste transportation. All material disturbance activities, material handling and disposal must be managed in accordance with the projects asbestos management plan (AMP) – if applicable.

5 Quality assurance / quality control (QA / QC)

A summary of the completed QA/QC assessment for the investigation is shown below in **Table 6**.

Table 6. Summary of the QA/QC assessment.

QA/QC Analysis		
Sample collection & handling measures appropriate?		☒ Yes ☐ No
Field QA/QC samples	No field quality control samples were collected as part of the investigation.	☐ Yes ☐ No ☒ N/A
Are the laboratory internal QA/QC results acceptable?		☒ Yes ☐ No
Were all field instruments calibrated?		☐ Yes ☐ No ☒ N/A
Field & laboratory data usable? Does ADE consider that the analytical results are representative of the conditions of the sampling locations at the time of sampling and are directly usable for the purpose of this assessment.		☒ Yes ☐ No

6 Bibliography

- Contaminated Land Management Act 1997 (NSW).
- National Environment Protection Council. (2013). National Environment Protection (Assessment of Site Contamination) Measure, 1999.
- New South Wales Environment Protection Authority. (2014). Waste Classification Guidelines Part 1: Classifying Waste.
- New South Wales Environment Protection Authority. (2020). Consultants reporting on contaminated land – Contaminated land guidelines.
- New South Wales Environment Protection Authority. (2022). Sampling design part 1 – application (Contaminated Land Guidelines).
- New South Wales Environment Protection Authority. (2024). Contaminated Land – Record of Notices from http://www.epa.nsw.gov.au/prclmapp/aboutregister.aspx
- New South Wales Environment Protection Authority. (2024). List of NSW contaminated sites notified to EPA from http://www.epa.nsw.gov.au/clm/publiclist.htm
- Protection of the Environment Operations Act 1997.
- Protection of the Environment Operations (Waste) Regulation 2014.
- Standards Australia. (2004). Australian Standard AS4964-2004: Method for the qualitative identification of asbestos in bulk samples. Sydney, NSW .
- WA DoH (2021). Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites, in Western Australia

7 Limitations

This report has been prepared for the exclusive use of the client and is limited to the scope of the work agreed in the terms and conditions of contract (including assumptions, limitations and qualifications, circumstances, and constraints). ADE has relied upon the accuracy of information and data provided to it by the client and others.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendixes and attachments. The report is an integral document and must be read in its entirety.

To the fullest extent permitted by law, ADE does not accept or assume responsibility to any third party (other than the client) for the investigative work, the report or the opinions given. The scope of work conducted, and report herein may not meet the specific needs (of which ADE is not aware) of third parties. ADE cannot be held liable for third party reliance on this document. Any third party who relies upon this report does so at its own risk.

The subsurface environment can present substantial uncertainty due to it complex heterogeneity. The conclusions presented in this report are based on limited investigation of conditions at specific sampling locations chosen to be as representative as possible under the given circumstances. However, it is possible that this investigation may not have encountered all areas of contamination at the site due to the limited sampling and testing program undertaken.

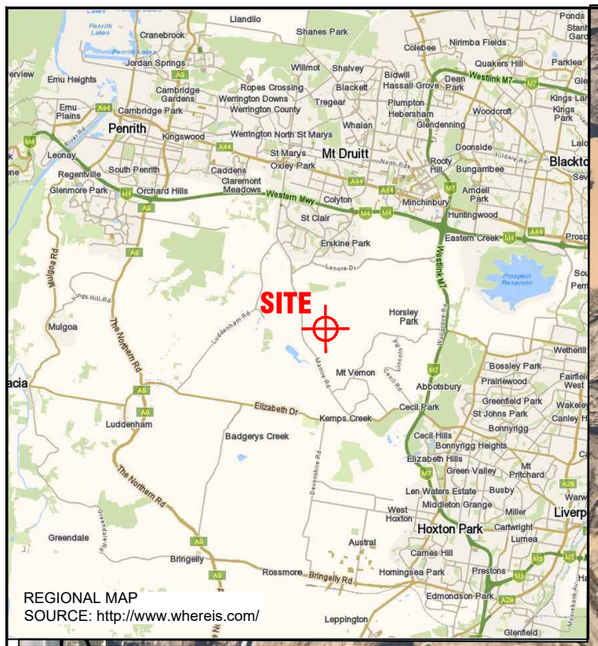
The material subject to classification pertains only to the site and subject area outlined within the report and must be consistent with the waste description reported. If there are any unexpected finds that are not consistent with this classification, ADE must be notified immediately.

ADE does not verify the accuracy or completeness of, or adopt as its own, the information or data supplied by others and excludes all liability with respect to such information and data. To the extent that conditions differ from assumptions set out in the report, and to the extent that information provided to ADE is inaccurate or incomplete or has changed since it was provided to ADE, the opinions expressed in this report may not be valid and should be reviewed.

ADE's professional opinions are based upon its professional judgement, experience, training, and results from analytical data. In some cases, further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited its investigation to the scope agreed upon with its client.

This Limitation and Disclaimer must accompany every copy of this report. Should you have any queries, please do not hesitate to contact us on 1300 796 922.

Appendix A – Figure



LEGEND

STOCKPILE - MAC1

TP TEST PIT LOCATION

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 29 MAY 2024.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	LL	05/08/24

0 10 20 30 40 50
SCALE 1:1000 @A3 METRES

drawn	MC
approved	LL
date	05/08/2024
scale	AS SHOWN
original size	A3

client: AT&L PTY LTD

project: MATERIAL ANALYSIS AND CLASSIFICATION
200 ALDINGTON ROAD, KEMPS CREEK, NSW

title: STOCKPILE AND SAMPLE LOCATION PLAN

project no: A101023.1725.07 | figure no: FIGURE 1 | rev: A

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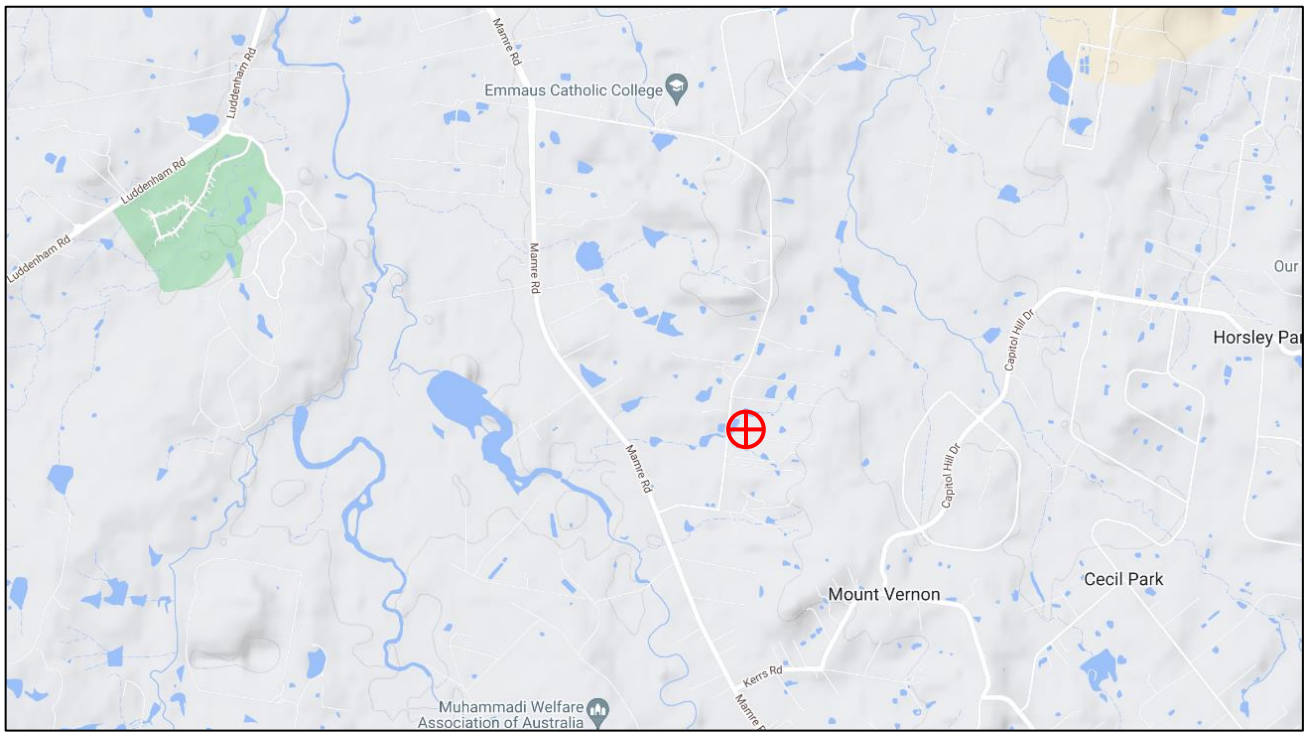
Appendix B – Photographs

Photograph 1. Subject stockpile. Date: 31/07/2024.

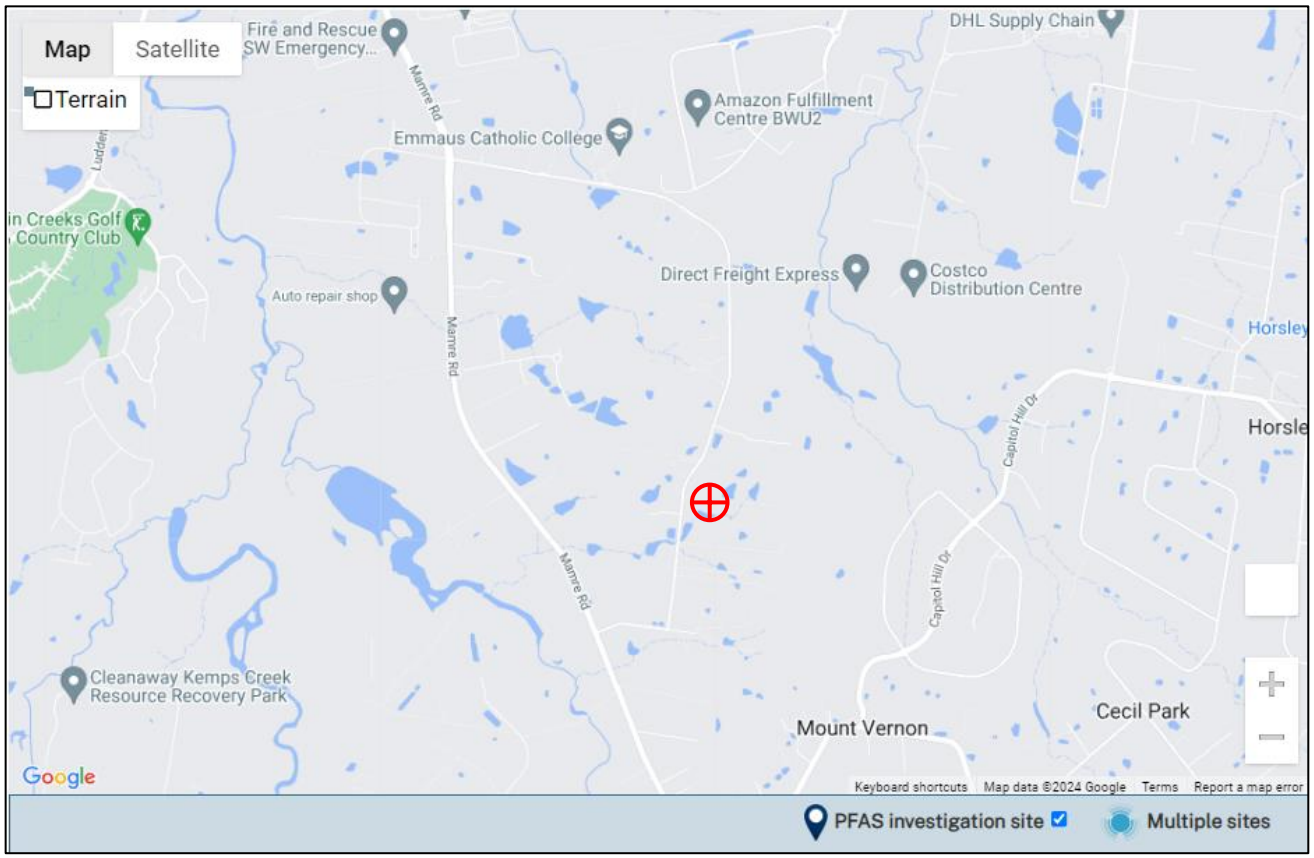
Photograph 2. ACM fragments encountered within subject stockpile. Date: 31/07/2024.

Photograph 3. Soil matrix encountered within subject stockpile. Date: 25/07/2024.

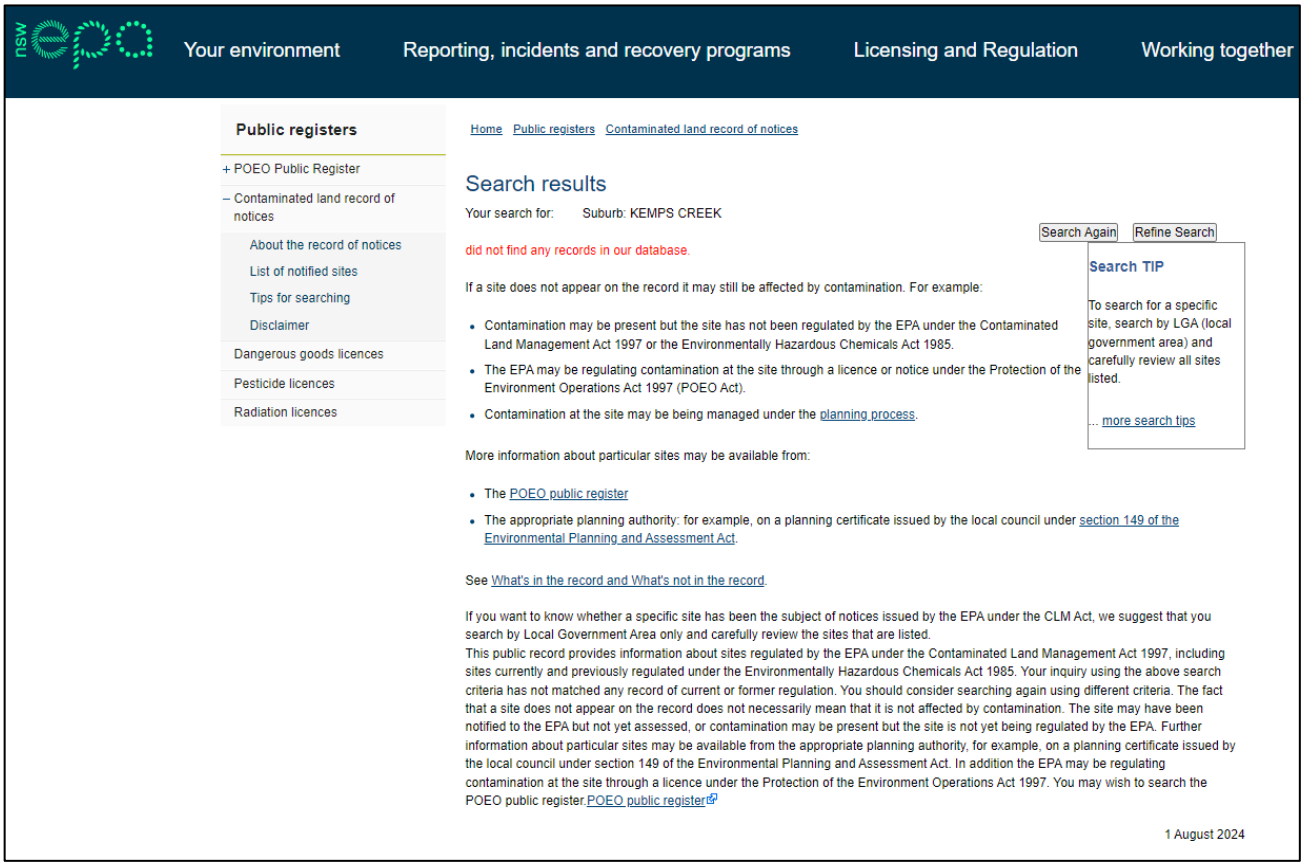
Appendix C – Supporting Documents



Supporting Figure 1. Acid Sulfate Soil Map showing the source site is located within an area with 'no data' (screenshot adapted from NSW Government eSpade https://www.environment.nsw.gov.au/eSpade2WebApp, accessed on 01/08/2024).



Supporting Figure 2. A review of the NSW EPA's PFAS Investigation Program map did not identify the source location as containing a PFAS legacy site. Additionally, no activities associated with PFAS were conducted at the source site (retrieved on 01/08/2024 from: https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program).



Supporting Figure 3. A search of the 'Contaminated Land - Record of Notices' listed by the NSW EPA under the Contaminated Land Management Act 1997, did not identify any notified sites within the suburb of Kemps Creek (screenshot adapted from https://apps.epa.nsw.gov.au/prclmapp/searchregister.aspx, accessed on 01/08/2024).

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
KEMPS CREEK	Caltex-branded Service Station	1163 Mamre ROAD	Service Station	Regulation under CLM Act not required	-33.86972102	150.7966074
KEMPSEY	Kempsey Showground	19 Sea STREET	Unclassified	Contamination being managed via the planning process (EP&A Act)	-31.07334836	152.8308795
KEMPSEY	Former Shell Depot	43-51 Gladstone STREET	Other Petroleum	Regulation under CLM Act not required	-31.07500944	152.8346699
KEMPSEY	Former Mobil Depot	14 Hopetoun STREET	Other Petroleum	Regulation under CLM Act not required	-31.07603107	152.8350132

Supporting Figure 4. Image of *the 'List of NSW Contaminated Sites Notified sites to the EPA'* listed by the NSW EPA under the *Contaminated Land Management Act 1997*, which identified one notified site within the suburb of Kemps Creek, NSW. All listed notified sites were outside a 250 m radius of the source site and were listed as 'Regulation under CLM Act not required' (screenshot adapted from https://www.epa.nsw.gov.au/your-environment/contaminated-land/notified-and-regulated-contaminated-land/list-of-notified-sites, accessed 01/08/2024).

Appendix D – Results Table

Analytical Results Table_ NSW EPA 2014

	Inorganics	Metals								BTEX											
	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene
	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		5	0.1	1	5	5	0.1	1	5	0.5	0.5	1	2	1	2	2	0.3	0.3	0.3	0.3	0.3
NSW 2014 General Solid Waste CT1 (No Leaching)		100	20	100		100	4	40		10	288	600			1,000						
NSW 2014 General Solid Waste SCC1 (with leached)		500	100	1,900		1,500	50	1,050		18	518	1,080			1,800						
NSW 2014 General Solid Waste TCLP1 (leached)																					
Field ID	**Date**																				
MAC1_TP1	**31 Jul 2024**	9.7	6.8	<0.10	15.5	25.7	33.0	0.12	15.2	64.1	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP2	**31 Jul 2024**	3.9	<5.0	<0.10	8.9	26.0	16.8	<0.10	9.4	44.5	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP3	**31 Jul 2024**	13.8	9.4	<0.10	17.5	24.2	30.2	0.10	16.8	55.3	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP4	**31 Jul 2024**	17.0	6.9	<0.10	19.4	28.0	36.7	0.11	18.0	58.1	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP5	**31 Jul 2024**	14.3	<5.0	<0.10	46.2	28.6	29.9	0.16	34.0	51.2	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP6	**31 Jul 2024**	18.4	5.5	<0.10	19.6	21.4	31.4	0.12	10.2	44.0	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP7	**31 Jul 2024**	10.1	<5.0	<0.10	19.4	19.4	43.6	0.10	21.1	43.9	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP8	**31 Jul 2024**	13.1	<5.0	<0.10	22.9	28.9	37.9	0.12	23.0	58.7	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP9	**31 Jul 2024**	16.0	<5.0	<0.10	27.0	36.8	35.5	0.13	26.5	58.2	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
MAC1_TP10	**31 Jul 2024**	9.5	<5.0	<0.10	15.6	28.1	20.3	0.11	10.4	49.1	<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<0.30	<0.30	<0.30	<0.30	<0.30
Statistics																					
Number of Results		**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Number of Detects		**10**	**4**	**0**	**10**	**10**	**10**	**9**	**10**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**3.9**	**<5**	**<0.1**	**8.9**	**19.4**	**16.8**	**0.1**	**9.4**	**43.9**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**
Maximum Concentration		**18.4**	**9.4**	**<0.1**	**46.2**	**36.8**	**43.6**	**0.16**	**34**	**64.1**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)

		PAH											TPH					Halogenated Benzenes				
		Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	Hexachlorobenzene	4,4-DDE	a-BHC	Aldrin	b-BHC
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	25	50	100	100	100	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)		0.8										200	650				10,000					
NSW 2014 General Solid Waste SCC1 (with leached)		10										200	650				10,000					
NSW 2014 General Solid Waste TCLP1 (leached)																						
Field ID	**Date**																					
MAC1_TP1	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP2	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP3	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP4	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP5	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	228	228	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP6	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP7	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP8	**31 Jul 2024**	<0.30	0.35	<0.30	<0.30	0.54	<0.30	<0.30	<0.30	<0.30	0.57	1.46	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP9	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP10	**31 Jul 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<25	<50	<100	<100	<100	<0.10	<0.10	<0.10	<0.10	<0.10
Statistics																						
Number of Results		**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Number of Detects		**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<25**	**<50**	**<100**	**<100**	**<100**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration		**<0.3**	**0.35**	**<0.3**	**<0.3**	**0.54**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**0.57**	**1.46**	**<25**	**<50**	**<100**	**228**	**228**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa

		Organochlorine Pesticides																Organophosphorous Pesticides				
		Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Ethoprop	Methyl parathion
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)																		4				
NSW 2014 General Solid Waste SCC1 (with leached)																		7.5				
NSW 2014 General Solid Waste TCLP1 (leached)																						
Field ID	**Date**																					
MAC1_TP1	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.47	<0.10	<0.10	<0.10	<0.10
MAC1_TP2	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP3	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP4	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP5	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP6	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP7	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP8	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP9	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
MAC1_TP10	**31 Jul 2024**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Statistics																						
Number of Results		**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.2**	**<0.2**	**<0.1**	**<0.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration		**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.2**	**<0.2**	**<0.1**	**<0.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.47**	**<0.1**	**<0.1**	**<0.1**	**<0.1**

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa

		PCBs								Pesticides
	Ronnel	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	DEF
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)									50	
NSW 2014 General Solid Waste SCC1 (with leached)									50	
NSW 2014 General Solid Waste TCLP1 (leached)										
Field ID	**Date**									
MAC1_TP1	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP2	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP3	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP4	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP5	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP6	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP7	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP8	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP9	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
MAC1_TP10	**31 Jul 2024**	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10
Statistics										
Number of Results		**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**
Maximum Concentration		**<0.1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa
NSW EPA, November 2014, NSW 2014 General Solid Wa

Appendix E - Analytical Reports and Chain of Custody

A24

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP

PROJECT:	200 Aldington Road, Kemps Creek
PROJECT NUMBER - INVOICE NUMBER	A101023.1725.07
Project Phase	A101023.1725.07.002
Project Task	L01
SAMPLES DELIVERED BY:	ADE Consulting Group
	6/7 Millennium Ct, Silverwater NSW 2128
SAMPLERS:	Nicholas Maricic
TURNAROUND:	24h: xx 48h: 72h: 5 WORKING DAYS:
SAMPLING DATE:	31/07/2024
AFTER TEST STORAGE:	ROOM TEMP: FRIDGE: xxx FREEZER: >>4 WEEKS: OTHER:
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: nicholas.maricic@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: linda.lenihan@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY): A101023.1725.07/002/L01

RECEIVED BY: VG SIGNATURE:

SAMPLES: 15 CHILLED: ☑ PRESERVED: ☐ PRESERVATION METHOD: — CUSTODY SEAL INTACT: ☐

MINIMAL HEADSPACE: ☐ WITHIN HOLDING TIME: ☑

DATE: 31-07-24 TIME: 2:03 TEMPERATURE UPON RECEIPT: 11 °C T46

LIMS LOT NO. 2403372 LIMS/EXCEL SIGNATURE: COMMENTS:

2024026

LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	CONTAINER DATA: TYPE & PRESERVATIVE	CONTAINER DATA: NO.	ANALYSES REQUIRED: OH03	OH04	OH07	SL01
097	MAC1_TP1	Soil	31/07/2024	B	1	X			X
098	MAC1_TP2	Soil	31/07/2024	B	1	X			X
099	MAC1_TP3	Soil	31/07/2024	B	1	X			X
100	MAC1_TP4	Soil	31/07/2024	B	1	X			X
101	MAC1_TP5	Soil	31/07/2024	B	1	X			X
102	MAC1_TP6	Soil	31/07/2024	B	1	X			X
103	MAC1_TP7	Soil	31/07/2024	B	1	X			X
104	MAC1_TP8	Soil	31/07/2024	B	1	X			X
105	MAC1_TP9	Soil	31/07/2024	B	1	X			X
106	MAC1_TP10	Soil	31/07/2024	B	1	X			X
107	MAC1_TP1A	Soil	31/07/2024	B	1			X	
108	MAC1_TP4A	Soil	31/07/2024	B	1			X	
109	MAC1_TP8A	Soil	31/07/2024	B	1			X	
110	MAC1_FRAG1	Soil	31/07/2024	B	1		X		
111	MAC1_FRAG2	Soil	31/07/2024	B	1		X		

NOTES

POTENTIAL HAZARDOUS CONTAMINANTS:

☑ ASBESTOS ☐ HYDROCARBONS
☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION
☐ OTHER:_____

LAB PLEASE *EMAIL COC RECEIPT: ☑

Sample Comments

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

01/08/24

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Linda Lenihan
Samplers	Nicholas Maricic

SAMPLE RECEIPT DETAILS

Project Number	A101023.1725.07/002/L01		
SLS Reference	2403372		
Number of samples	15		
Date samples received	31.07.2024		
Time samples received	2:03 PM		
Samples Received By	Krista Johnston		
Temperature upon receipt (°C)	11	**Thermometer Ref NO.**	T46
Turn Around Time requested	24 hours		
Expected Report Date	**01.08.2024**		

CONDITION OF SAMPLES UPON RECEIVAL

No errors in COC provided.	✓
All samples were received in good condition.	✓
Evidence of chilling for samples.	✓
Appropriate use of sample containers have been used.	✓
Samples were delivered within holding time of analysis requested.	✓
Samples to be tested for volatiles received with zero headspace.	✓
Custody Seal intact (if used)	N/A

COMMENTS

This Report Contains:

Sample receipt non-conformities.
Summary of samples and requested analysis.
Requested report deliverables.

CONTACT US FOR ANY QUERIES

If you have any questions with respect to these samples please contact:

Email	sls@ade.group	**Contact**	Krista Johnston
Phone	(+61) 0451 524 289	**Signed**	

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

INFORMATION SUMMARY

SLS Reference	2403372
Project Number	A101023.1725.07/002/L01
Client	ADE Consulting Group
Contact	Linda Lenihan
Samplers	Nicholas Maricic

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED			
Laboratory Sample ID	Sampling Date	Client Sample ID	OH03	OH04	OH07	SL01
2024026097	31.07.2024	MAC1_TP1	X			X
2024026098	31.07.2024	MAC1_TP2	X			X
2024026099	31.07.2024	MAC1_TP3	X			X
2024026100	31.07.2024	MAC1_TP4	X			X
2024026101	31.07.2024	MAC1_TP5	X			X
2024026102	31.07.2024	MAC1_TP6	X			X
2024026103	31.07.2024	MAC1_TP7	X			X
2024026104	31.07.2024	MAC1_TP8	X			X
2024026105	31.07.2024	MAC1_TP9	X			X
2024026106	31.07.2024	MAC1_TP10	X			X
2024026107	31.07.2024	MACTP1A			X	
2024026108	31.07.2024	MACTP4A			X	
2024026109	31.07.2024	MACTP8A			X	
2024026110	31.07.2024	MAC1_FRAG1		X		
2024026111	31.07.2025	MAC1_FRAG2		X		

Batch Number : 2403372

Report Number : A101023.1725.07 (097-111)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

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

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

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

Results for the analysis of metals is only for acid soluble trace metals unless indicated otherwise.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Certificate of Analysis

Contact:	Linda Lenihan	**Date Reported:**	1/08/2024
Customer:	ADE Consulting Group	**No. of Samples:**	10
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	31/07/2024
		Date of Analysis:	31/07/2024

Cust Ref: A101023.1725.07.002 L01

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Certificate of Analysis

	Sample ID:	2024026097	2024026098	2024026099	2024026100	2024026101	2024026102	2024026103	2024026104	2024026105	2024026106
	Sample Name	MAC1_TP1	MAC1_TP2	MAC1_TP3	MAC1_TP4	MAC1_TP5	MAC1_TP6	MAC1_TP7	MAC1_TP8	MAC1_TP9	MAC1_TP10
Parameter	*Units*	*PQL*	Sample Date: 31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024
ESA-P-ORG7 & ORG8											
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		83	77	68	76	62	79	68	65	92	110
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01											
Arsenic	mg/kg	5	6.8	<5.0	9.4	6.9	<5.0	5.5	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium	mg/kg	1	15.5	8.9	17.5	19.4	46.2	19.6	19.4	22.9	27.0	15.6
Copper	mg/kg	5	25.7	26.0	24.2	28.0	28.6	21.4	19.4	28.9	36.8	28.1
Lead	mg/kg	5	33.0	16.8	30.2	36.7	29.9	31.4	43.6	37.9	35.5	20.3
Mercury	mg/kg	0.1	0.12	<0.10	0.10	0.11	0.16	0.12	0.10	0.12	0.13	0.11
Nickel	mg/kg	1	15.2	9.4	16.8	18.0	34.0	10.2	21.1	23.0	26.5	10.4
Zinc	mg/kg	5	64.1	44.5	55.3	58.1	51.2	44.0	43.9	58.7	58.2	49.1
ESA-P-12											
% Moisture Content	%		9.7	3.9	13.8	17.0	14.3	18.4	10.1	13.1	16.0	9.5
ESA-P-ORG(12 - 15)											
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Certificate of Analysis

	Sample ID:	2024026097	2024026098	2024026099	2024026100	2024026101	2024026102	2024026103	2024026104	2024026105	2024026106
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Parameter	Units	PQL	Sample Date: 31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.35	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.54	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.57	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	1.46	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		89	86	96	89	98	89	103	100	115	94
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certificate of Analysis

	Sample ID:	2024026097	2024026098	2024026099	2024026100	2024026101	2024026102	2024026103	2024026104	2024026105	2024026106
	Sample Name	MAC1_TP1	MAC1_TP2	MAC1_TP3	MAC1_TP4	MAC1_TP5	MAC1_TP6	MAC1_TP7	MAC1_TP8	MAC1_TP9	MAC1_TP10
Parameter	Units	PQL	Sample Date: 31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		107	102	111	100	112	97	111	99	121	104
chlorpyrifos	mg/kg	0.1	0.47	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2024026097	2024026098	2024026099	2024026100	2024026101	2024026102	2024026103	2024026104	2024026105	2024026106
	Sample Name	MAC1_TP1	MAC1_TP2	MAC1_TP3	MAC1_TP4	MAC1_TP5	MAC1_TP6	MAC1_TP7	MAC1_TP8	MAC1_TP9	MAC1_TP10
Parameter	Units	PQL	Sample Date: 31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		90	86	90	85	93	79	79	80	87	87
ESA-P-ORG(3,8)												
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	203	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	169	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	372	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	228	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	228	<100	<100	<100	<100	<100

Batch Number : 2403372

Report Number : A101023.1725.07 (097-106)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

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 the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
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.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals, 60-140% for organics/PFAS is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Quality Control Report

Contact:	Linda Lenihan	**Date Reported:**	1/08/2024
Customer:	ADE Consulting Group	**No. of Samples:**	19
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	31/07/2024
		Date of Analysis:	31/07/2024

Cust Ref: A101023.1725.07.002 L01

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
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RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Quality Control Report

Sample ID: **D202402343601**

Sample Name **MAC16_TP2_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG7 & ORG8			
Benzene			Pass
Toluene			Pass
Ethylbenzene			Pass
m.p Xylene			Pass
o Xylene			Pass
Fluorobenzene (Surr.)	%		91
C6-C10			Pass
C6-C9			Pass

Sample ID: **D202402343602**

Sample Name **MAC16_TP2_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG(12 - 15)			
Acenaphthene			Pass
Acenaphthylene			Pass
Anthracene			Pass
Benzo[a]anthracene			Pass
Benzo[a]pyrene			Pass
Benzo[g,h,i]perylene			Pass
Benzo[b,k]fluoranthene			Pass
Chrysene			Pass
Dibenzo[a,h]anthracene			Pass
Fluoranthene			Pass
Fluorene			Pass
Indeno(1,2,3-cd)pyrene			Pass

Naphthalene			Pass
Phenanthrene			Pass
Pyrene			Pass
p-Terphenyl-d14 (Surr.)	%		92
aldrin			Pass
a-BHC			Pass
b-BHC			Pass
d-BHC			Pass
g-BHC (lindane)			Pass
cis-chlordane			Pass
trans-chlordane			Pass
4,4'-DDD			Pass
4,4'-DDE			Pass
4,4'-DDT			Pass
dieldrin			Pass
endosulfan I			Pass
endosulfan II			Pass
endosulfan sulfate			Pass
endrin			Pass
endrin aldehyde			Pass
endrin ketone			Pass
heptachlor			Pass
heptachlor epoxide			Pass
hexachlorobenzene			Pass
methoxychlor			Pass
TCMX (Surr.)	%		93
chlorpyrifos			Pass
chlorpyrifos methyl			Pass
diazinon			Pass
fenchlorphos			Pass
methyl parathion			Pass

prophos			Pass
tributylphosphorotrithioite			Pass
Aroclor 1016			Pass
Aroclor 1221			Pass
Aroclor 1232			Pass
Aroclor 1242			Pass
Aroclor 1248			Pass
Aroclor 1254			Pass
Aroclor 1260			Pass
2-fluorobiphenyl (Surr.)	%		73

Sample ID: **D202402343603**

Sample Name **MAC16_TP2_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG(3,8)			
>C10-C16			Pass
>C16-C34			Pass
>C34-C40			Pass
>C10-C14			Pass
>C15-C28			Pass
>C29-C36			Pass

Sample ID: **D202402609701**

Sample Name **MAC1_TP1**

Parameter	*Units*	*PQL*	
ESA-P-ORG(3,8)			
>C10-C16			Pass
>C16-C34			Pass
>C34-C40			Pass
>C10-C14			Pass
>C15-C28			Pass
>C29-C36			Pass

Sample ID:	**D202402609702**
Sample Name	**MAC1_TP1**

Parameter	*Units*	*PQL*	
ESA-P-ORG7 & ORG8			
Benzene			Pass
Toluene			Pass
Ethylbenzene			Pass
m.p Xylene			Pass
o Xylene			Pass
Fluorobenzene (Surr.)	%		68
C6-C10			Pass
C6-C9			Pass

Sample ID:	**D202402609703**
Sample Name	**MAC1_TP1**

Parameter	*Units*	*PQL*	
ESA-P-ORG(12 - 15)			
Acenaphthene			Pass
Acenaphthylene			Pass
Anthracene			Pass
Benzo[a]anthracene			Pass
Benzo[a]pyrene			Pass
Benzo[g,h,i]perylene			Pass
Benzo[b,k]fluoranthene			Pass
Chrysene			Pass
Dibenzo[a,h]anthracene			Pass
Fluoranthene			Pass
Fluorene			Pass
Indeno(1,2,3-cd)pyrene			Pass
Naphthalene			Pass
Phenanthrene			Pass

Pyrene			Pass
p-Terphenyl-d14 (Surr.)	%		79
aldrin			Pass
a-BHC			Pass
b-BHC			Pass
d-BHC			Pass
g-BHC (lindane)			Pass
cis-chlordane			Pass
trans-chlordane			Pass
4,4'-DDD			Pass
4,4'-DDE			Pass
4,4'-DDT			Pass
dieldrin			Pass
endosulfan I			Pass
endosulfan II			Pass
endosulfan sulfate			Pass
endrin			Pass
endrin aldehyde			Pass
endrin ketone			Pass
heptachlor			Pass
heptachlor epoxide			Pass
hexachlorobenzene			Pass
methoxychlor			Pass
TCMX (Surr.)	%		92
chlorpyrifos			Pass
chlorpyrifos methyl			Pass
diazinon			Pass
fenchlorphos			Pass
methyl parathion			Pass
prophos			Pass
tributylphosphorotrithioite			Pass

Aroclor 1016			Pass
Aroclor 1221			Pass
Aroclor 1232			Pass
Aroclor 1242			Pass
Aroclor 1248			Pass
Aroclor 1254			Pass
Aroclor 1260			Pass
2-fluorobiphenyl (Surr.)	%		70

Sample ID: **D202402609801**

Sample Name **MAC1_TP2**

Parameter	*Units*	*PQL*	
ESA-MP-01,ICP-01			
Arsenic			Pass
Cadmium			Pass
Chromium			Pass
Copper			Pass
Lead			Pass
Mercury			Pass
Nickel			Pass
Zinc			Pass

Sydney Laboratory Services

Sample ID: **Q2024005383**

Sample Name

Parameter	*Units*	*PQL*	BTEX Blank - Soil
ESA-P-ORG7 & ORG8			
Benzene	mg/kg	0.5	<0.50
Toluene	mg/kg	0.5	<0.50
Ethylbenzene	mg/kg	1	<1.0
m.p Xylene	mg/kg	2	<2.0
o Xylene	mg/kg	1	<1.0
C6-C10	mg/kg	35	<35
C6-C9	mg/kg	25	<25

Sample ID: **Q2024005384**

Sample Name

Parameter	*Units*	*PQL*	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8			
Benzene	%		90
Toluene	%		77
Ethylbenzene	%		81
m.p Xylene	%		113
o Xylene	%		87
Fluorobenzene (Surr.)	%		106

Sample ID: **Q2024005385**

Sample Name

Parameter	*Units*	*PQL*	PCB Blank - Soil
ESA-P-ORG(12 - 15)			
Acenaphthene	mg/kg	0.3	<0.30
Acenaphthylene	mg/kg	0.3	<0.30
Anthracene	mg/kg	0.3	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30

Benzo[a]pyrene	mg/kg	0.3	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30
Chrysene	mg/kg	0.3	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30
Fluoranthene	mg/kg	0.3	<0.30
Fluorene	mg/kg	0.3	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30
Naphthalene	mg/kg	0.3	<0.30
Phenanthrene	mg/kg	0.3	<0.30
Pyrene	mg/kg	0.3	<0.30
aldrin	mg/kg	0.1	<0.10
a-BHC	mg/kg	0.1	<0.10
b-BHC	mg/kg	0.1	<0.10
d-BHC	mg/kg	0.1	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10
cis-chlordane	mg/kg	0.1	<0.10
trans-chlordane	mg/kg	0.1	<0.10
4,4'-DDD	mg/kg	0.1	<0.10
4,4'-DDE	mg/kg	0.1	<0.10
4,4'-DDT	mg/kg	0.1	<0.10
dieldrin	mg/kg	0.1	<0.10
endosulfan I	mg/kg	0.2	<0.20
endosulfan II	mg/kg	0.2	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10
endrin	mg/kg	0.2	<0.20
endrin aldehyde	mg/kg	0.1	<0.10
endrin ketone	mg/kg	0.1	<0.10
heptachlor	mg/kg	0.1	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10

methoxychlor	mg/kg	0.1	<0.10
chlorpyrifos	mg/kg	0.1	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10
diazinon	mg/kg	0.1	<0.10
fenchlorphos	mg/kg	0.1	<0.10
methyl parathion	mg/kg	0.1	<0.10
prophos	mg/kg	0.1	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10
Aroclor 1016	mg/kg	0.5	<0.50
Aroclor 1221	mg/kg	0.5	<0.50
Aroclor 1232	mg/kg	0.5	<0.50
Aroclor 1242	mg/kg	0.5	<0.50
Aroclor 1248	mg/kg	0.5	<0.50
Aroclor 1254	mg/kg	0.5	<0.50
Aroclor 1260	mg/kg	0.5	<0.50

	Sample ID:	Q2024005386
	Sample Name	

Parameter	Units	PQL	PCB Blank Sp - Soil
ESA-P-ORG(12 - 15)			
Acenaphthene	%		110
Anthracene	%		112
Fluoranthene	%		110
Naphthalene	%		107
Phenanthrene	%		107
Pyrene	%		107
p-Terphenyl-d14 (Surr.)	%		78
aldrin	%		98
endrin	%		77
hexachlorobenzene	%		88
TCMX (Surr.)	%		81
chlorpyrifos	%		100
diazinon	%		114
2-fluorobiphenyl (Surr.)	%		73
Aroclor 1016	%		120

	Sample ID:	Q2024005387
	Sample Name	

Parameter	Units	PQL	TRH Blank-Soil
ESA-P-ORG(3,8)			
>C10-C16	mg/kg	50	<50
>C16-C34	mg/kg	100	<100
>C34-C40	mg/kg	100	<100
>C10-C14	mg/kg	50	<50
>C15-C28	mg/kg	100	<100
>C29-C36	mg/kg	100	<100

Sample ID:	**Q2024005388**
Sample Name	

Parameter	*Units*	*PQL*	TRH Blank Spike-Soil
ESA-P-ORG(3,8)			
>C10-C16	%		115
>C10-C14	%		115

Sample ID:	**Q2024005850**
Sample Name	

Parameter	*Units*	*PQL*	Metals Blank - Soil
ESA-MP-01,ICP-01			
Arsenic	mg/kg	5	<5.0
Cadmium	mg/kg	0.1	<0.10
Chromium	mg/kg	1	<1.0
Copper	mg/kg	5	<5.0
Lead	mg/kg	5	<5.0
Mercury	mg/kg	0.1	<0.10
Nickel	mg/kg	1	<1.0
Zinc	mg/kg	5	<5.0

Sample ID:	**Q2024005851**
Sample Name	

Parameter	*Units*	*PQL*	Metals Blank Sp-Soil
ESA-MP-01,ICP-01			
Arsenic	%		100
Cadmium	%		101
Chromium	%		100
Copper	%		104
Lead	%		99
Mercury	%		97
Nickel	%		100
Zinc	%		91

Sample ID:	**S202402343401**
Sample Name	**MAC16_TP1_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG-07 & 08			
Benzene	%		82
Toluene	%		72
Ethylbenzene	%		86
m.p Xylene	%		122
o Xylene	%		107
Fluorobenzene (Surr.)	%		72

Sample ID:	**S202402343402**
Sample Name	**MAC16_TP1_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG(12 - 15)			
Acenaphthene	%		108
Anthracene	%		110
Fluoranthene	%		112
Naphthalene	%		107
Phenanthrene	%		107
Pyrene	%		104
p-Terphenyl-d14 (Surr.)	%		79
aldrin	%		94
endrin	%		74
hexachlorobenzene	%		85
TCMX (Surr.)	%		79
chlorpyrifos	%		100
diazinon	%		112
Aroclor 1016	%		103
2-fluorobiphenyl (Surr.)	%		73

Sample ID:	**S202402343403**
Sample Name	**MAC16_TP1_D**

Parameter	*Units*	*PQL*	
ESA-P-ORG(3,8)			
>C10-C16	%		119
>C10-C14	%		119

Sample ID:	**S202402609701**
Sample Name	**MAC1_TP1**

Parameter	*Units*	*PQL*	
ESA-MP-01,ICP-01			
Arsenic	%		98
Cadmium	%		104
Chromium	%		100
Copper	%		111
Lead	%		99
Mercury	%		109
Nickel	%		96
Zinc	%		89

Sydney Laboratory Services

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A.B.N. 52 093 452 950

Analysis report: A101023.1725.07
Laboratory LOT NO: 2403372

Date Received: 31.07.2024
Date Analysed: 31.07.2024
Report Date: 31.07.2024
Client: ADE Consulting Group
Analytical method: ABI-P-01: Identification of Asbestos in Bulk Samples

Analysis performed by:

Grace (Weichen) Jia
Approved asbestos identifier

Results Authorised By:

Min Fu
Approved Signatory

This report supersedes all previous reports with the same reference. This report shall not be reproduced except in full

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.

Tests not covered by NATA are denoted with *.

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by the client.

Sample analysed as received.
Samples are stored for minimum period of 4 weeks, if longer time is not advised by client.
All positive/negative results have been confirmed by polarized light microscopy including dispersion staining.
ABI-P-01: Qualitative Identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques as per AS4964.
Under AS4964, the reporting limit of asbestos in bulk samples is set as 0.1g/kg.

Accreditation No.14664.
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Tests not covered by NATA are denoted with *.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dry Weight (g)	Trace Analysis (> 5 Fibres)	Asbestos ID in Soil (AS4964) >0.1g/kg	Weight Total ACM (g)	Comments
MAC1_TP1	2024026097	Granulated Dark Soil	186.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP2	2024026098	Granulated Dark Soil	108.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP3	2024026099	Granulated Dark Soil	145.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP4	2024026100	Granulated Dark Soil	117.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP5	2024026101	Granulated Dark Soil	156.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dry Weight (g)	Trace Analysis (> 5 Fibres)	Asbestos ID in Soil (AS4964) >0.1g/kg	Weight Total ACM (g)	Comments
MAC1_TP6	2024026102	Granulated Dark Soil	103.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP7	2024026103	Granulated Dark Soil	114.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP8	2024026104	Granulated Dark Soil	121.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP9	2024026105	Granulated Dark Soil	115.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil
MAC1_TP10	2024026106	Granulated Dark Soil	148.00	ND	No asbestos detected at the reporting limit of 0.1g/kg Organic fibres detected	N/A	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Weight (Dry) (g)	Sample Dimensions (cm)	Trace Analysis (> 5 Fibres)	Asbestos ID in Bulk (AS4964) >0.1g/kg	Comments
MAC1 - Frag1	2024026110	Grey Fibre Cement	20.00	9.0 x 5.0 x 0.3	N/A	**Chrysotile asbestos detected by polarized light microscopy including dispersion staining.** Organic fibres detected	Nil
MAC1 - Frag2	2024026111	Grey Fibre Cement	8.00	6.0 x 3.0 x 0.3	N/A	**Chrysotile asbestos detected by polarized light microscopy including dispersion staining.** Organic fibres detected	Nil

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Ph: (02) 9648-6669

A.B.N. 52 093 452 950

Analysis report: A101023.1725.07

Laboratory LOT NO: 2403372

Date Received: 31.07.2024
Date Analysed: 31.07.2024
Report Date: 31.07.2024
Client: ADE Consulting Group
Job Location: As Received
Analytical method: Polarised Light Microscopy with dispersion staining (ADE method ABI)

*Asbestos identification as per "National Environment Protection (Assessment of site contamination) Measure, Schedule B1" and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" is not coverd by NATA scope of accreditation

Analysis performed by:

Min Fu
Approved asbestos identifier

Results Authorised By:

Grace (Weichen) Jia
Approved Signatory

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by the client.

Sample analysed as received.
Samples are stored for minimum period of 1 month if longer time is not advised by client.
Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.01g/kg (0.001% w/w) for friable asbestos and 0.1g/kg (0.01% w/w) for bonded asbestos.
This form of analysis is outside the scope of NATA accreditation.
Bonded asbestos containing material (bonded ACM) : Bonded ACM comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin.This term is restricted to material that cannot pass a 7 mm x 7 mm sieve.
Fibrous asbestos (FA): FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
Asbestos fines (AF): AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.
Note: The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Weight (Dry Weight)	Trace Analysis Completed Y/N	Result	Comments
MAC1_TP1A	2024026107	Granulated Dark Soil	500mL	619 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	One (1) fibre cement fragment (8.0 x 5.0 x 0.6 cm, 31 grams) containing Chrysotile asbestos, concentration at 7.5g/kg, which is above the detection limit of 0.1g/kg. No respirable asbestos detected during the trace analysis.
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
MAC1_TP4A	2024026108	Granulated Dark Soil	500mL	562 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Three (3) fibre cement fragments (5.0 x 4.0 x 0.3 cm, 7.0 x 6.0 x 0.4 cm, 3.0 x 1.0 x 0.2 cm, 8.8 grams, 44 grams, 1.5 grams) containing Chrysotile asbestos, concentration at 14.5g/kg, which is above the detection limit of 0.1g/kg. No respirable asbestos detected during the trace analysis.
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
MAC1_TP8A	2024026109	Granulated Dark Soil	500mL	642 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Three (3) fibre cement fragments (5.0 x 3.0 x 0.3 cm, 4.0 x 2.5 x 0.2 cm, 6.0 x 5.0 x 0.4 cm, 8.4 grams, 10.5 grams, 23grams) containing Chrysotile asbestos, concentration at 9.8 g/kg, which is above the detection limit of 0.1g/kg. No respirable asbestos detected during the trace analysis.
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil

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Further details regarding ADE's Services are available via

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