



Premise

GULGONG HOLDINGS PTY LTD

Stage 1 Preliminary Site Investigation

SUBDIVISION, 1 RAILWAY ST GULGONG

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CONTENTS

1.	INTRODUCTION	1
1.1	BACKGROUND.....	1
1.2	SCOPE OF WORK.....	2
2.	SITE DESCRIPTION	4
2.1	SITE DEFINITION	4
2.2	SITE SETTING	4
2.3	TOPOGRAPHY AND SURFACE WATER.....	5
2.4	REGIONAL AND SITE GEOLOGY	5
2.5	REGIONAL HYDROGEOLOGY.....	6
3.	SITE HISTORICAL REVIEW	8
3.1	NSW EPA RECORDS.....	8
3.2	MID-WESTERN REGIONAL COUNCIL PLANNING RECORDS	8
3.3	PREVIOUS TITLE INFORMATION	8
3.4	HISTORIC AERIAL PHOTOGRAPHY.....	9
3.5	SUMMARY OF SITE HISTORY INFORMATION	10
4.	SITE RECONNAISSANCE	11
4.1	WASTE MANAGEMENT / LANDFILLING	11
4.2	STORMWATER.....	11
4.3	CHEMICAL AND FUEL STORAGE / SPILLS.....	11
4.4	ASBESTOS	11
4.5	INFRASTRUCTURE.....	11
5.	ENVIRONMENTAL INVESTIGATION	12
5.1	POTENTIAL CONTAMINATION ISSUES.....	12
5.2	INVESTIGATION CRITERIA	12
5.3	METHODOLOGY	13
5.4	SAMPLE ANALYSIS.....	15
5.5	ANALYTICAL RESULTS	15
5.6	DISCUSSION	15
6.	CONCLUSIONS	16

FIGURES

Figure 1 – Site Locality.....	2
Figure 2 – Extent of ‘Craigmore’ and ‘Gulgong’ Soil Landscape Groups	6
Figure 3 – Investigation Sample Locations.....	4

TABLES

Table 2.1 – Summary of Property Description Details	4
Table 2.2 – Adjacent Properties Descriptions	5
Table 2.3 – Groundwater Bores within 500 m of Site	7
Table 3.1 – Title History, Lot 2, DP 613429	8
Table 3.2 – Summary of Aerial Photo Information	9
Table 5.1 – Assessment Methodology Summary	13

APPENDICES

APPENDIX A REGISTERED GROUNDWATER BORE RECORDS

APPENDIX B MID WESTERN REGIONAL COUNCIL PLANNING RECORDS

APPENDIX C TITLE RECORDS

APPENDIX D HISTORIC AERIAL PHOTOGRAPHY

APPENDIX E ANALYTICAL CERTIFICATES

APPENDIX F ANALYTICAL LABORATORY QA/QC & CHAIN OF CUSTODY DOCUMENTS



1. INTRODUCTION

1.1 Background

Premise was engaged Gulgong Holdings Pty Limited (c/o- dmps) to conduct a Stage 1 Preliminary Site Investigation (S1 PSI) for the site of a residential subdivision of the land at 1 Railway St, Gulgong NSW 2852, (the site).

This S1 PSI is recommended by the Managing Land Contamination – Planning Guidelines 1998 under the NSW State Environmental Planning Policy (SEPP) No 55 – Remediation of Land 1998.

Clause 7 of SEPP 55 requires that a consent authority must consider contamination and remediation in determining a development application and must not grant consent unless:

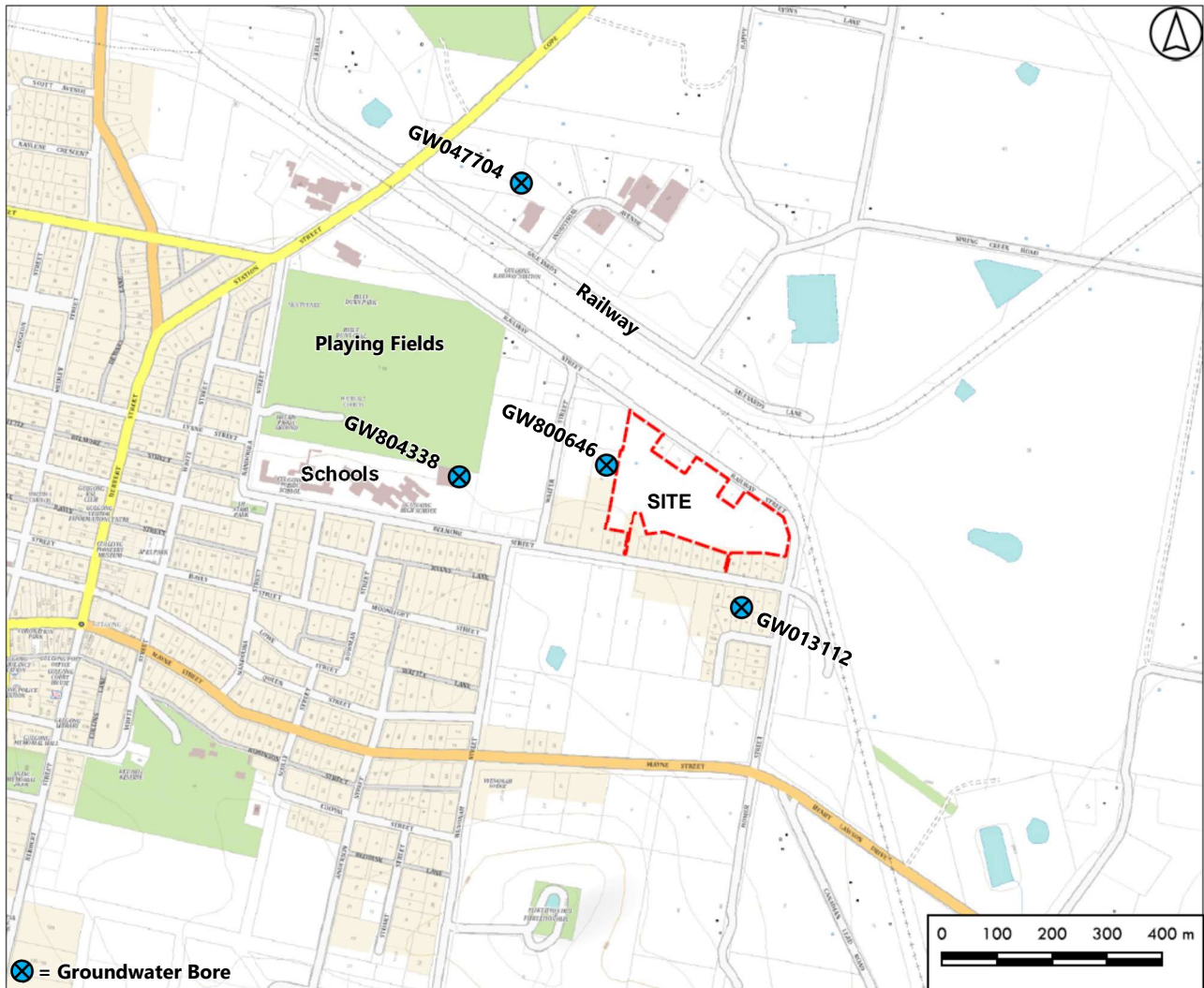
- (a) it has considered whether the land is contaminated, and*
- (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
- (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

The subject site includes the entirety of Lot 2 in Deposited Plan (DP) 613429, as shown on **Figure 1**.

This S1 PSI has been prepared in general accordance with the NSW EPA publication *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Land* (EPA, April 2020). The overall objective is to identify the potential for land contamination at the site. Where land is not considered to be suitable for proposed land uses, recommendations for management and/or remediation to minimise risk to the environment, future occupants and contractors would be included.

The site covers an area of approximately 4.2 hectares (ha) with approximate dimensions of 145 m north-south and 330 m east west. Three residential lots border the site's northern boundary (and are incised into the title), whilst sixteen residential lots border the site's southern boundary.

Figure 1 – Site Locality



This Stage 1 PSI is based on a desktop review of available information, a site walkover reconnaissance, analysis of targeted soil samples and a search of historical records.

1.2 Scope of Work

The scope of work for this assessment consisted of the following components:

- Review of the following third party documents:
 - Published topographical, geological and soil maps of the area;
 - Details of groundwater bores located within 500 m of the site and registered on the [groundwater bore database](https://realtime.data.watersnsw.com.au/water.stm), maintained by the NSW Office of Water (<https://realtime.data.watersnsw.com.au/water.stm>);
 - The public register managed by the NSW EPA for information on scheduled activities and penalty notices issued under the Protection of the Environment Operations Act;

- The database managed by the NSW Environment Protection Authority (EPA) for information on notices issued under the Contaminated Land Management Act 1997;
- Aerial photographs – selected historical aerial photographs of the site available for review to provide evidence of the history of development of the site and indications of potential sources of contamination;
- Review title folio documentation to provide details of historic ownership and land use(s) for nominated properties;
- Planning Certificate under Section 10.7 of the Environmental Planning and Assessment Act 1979, available from Mid-Western Regional Council.
- Site inspection – A site inspection by Premise personnel of the site and surrounding areas was undertaken to provide further information, via visual inspection, of potential sources and areas of significant environmental liability. The site inspection focused on the following:
 - Areas of operational processes including waste management, water management, the condition of the site surfaces and buildings, and the presence of electrical transformers on site.
 - Areas of potential landfilling.
 - Potential impacts of neighbouring land uses.
 - Sensitivity of the receiving environment.
- Collection of samples from surface soils and shallow sediments at the site, and laboratory analysis for chemicals of potential concern (COPC) to establish potential for residual chemical impacts.
- Preparation of this factual report detailing the assessment findings in accordance with the NSW EPA publication *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Land* (EPA, 2020).

An overview of neighbouring properties was also conducted to identify the presence and proximity of sensitive receptors which could be significantly impacted upon by the site, and off-site operations which could have a significant impact on land contamination at the site.

2. SITE DESCRIPTION

2.1 Site Definition

Table 2.1 – Summary of Property Description Details

Feature	Details
Site Address ¹	1 Railway St, Gulgong NSW
Title Identification Details ¹	Lot 2 in DP 613429
Current Ownership	Ulan Coal Mines Limited
Current Site Use and Zoning ²	Land Use: Vacant Zoning: General Residential (R1)
Future Site Use	Residential Subdivision
Previous Environmental Reports	Nil
Site Area ¹	4.2 hectares (approximately)
Sources: 1: SIX Maps Website developed by NSW Government, Land and Property Information. http://maps.six.nsw.gov.au/ (accessed October 2021). 2: Mid-Western Regional Local Environmental Plan, 2012, under the Environmental Planning and Assessment Act 1979.	

2.2 Site Setting

2.2.1 REGIONAL SETTING

The site is located in the north-eastern outskirts of Gulgong, with residential land uses to the immediate south, with light industrial and small-scale agriculture land uses to the north and east. The Wallerawang - Gwabegar Railway is located approximately 30 east of the site.

The site is approximately 1 kilometre north-east of the Gulgong central business district and 4 km south-west of Cooyal Creek.

The following sensitive receptors are located within the vicinity of the site:

- Cooyal Creek, downslope of the site, approximately 5 km north-east;
- Residents of dwellings to the north, south and west the site;
- Future residents of on-site dwellings on the site;
- Groundwater present in aquifer(s) underlying the site.

2.2.2 LOCAL SETTING

No structures are present on the site.

Land uses and properties adjacent to the site, including those across adjacent roads were obtained from the site inspection conducted by Premise personnel in September 2021. The local area surrounding the site is displayed in **Figure 1**. Identified adjacent land uses are summarised in **Table 2.2**:

Table 2.2 – Adjacent Properties Descriptions

Direction from Site	Site Use (Nature of Activity)
North	Three (3) residential dwellings of Railway Street adjacent to the site, and truck refuelling station beyond
South	Sixteen (16) residential dwellings of Belmore Street adjacent to the site, and additional dwellings and vacant land beyond.
East	Homer Street, and rail line. Small-scale agriculture (grazing) beyond
West	Residential dwellings of Walter Street, and small-scale agriculture (grazing) beyond

2.3 Topography and Surface Water

Topographical site information was obtained from the:

- Gulgong 8833-3-N, 1:25,000 Scale, Topographic Map, Third Edition (New South Wales Spatial Services, 2017); and
- Site visit in September 2021

The site consists of a generally flat landscape with the most elevated point being an embankment of a former dam wall in the west of the site (approximate elevation 455 metres Australian Height Datum – mAHD). The slope of the site is very slight, to the north and east.

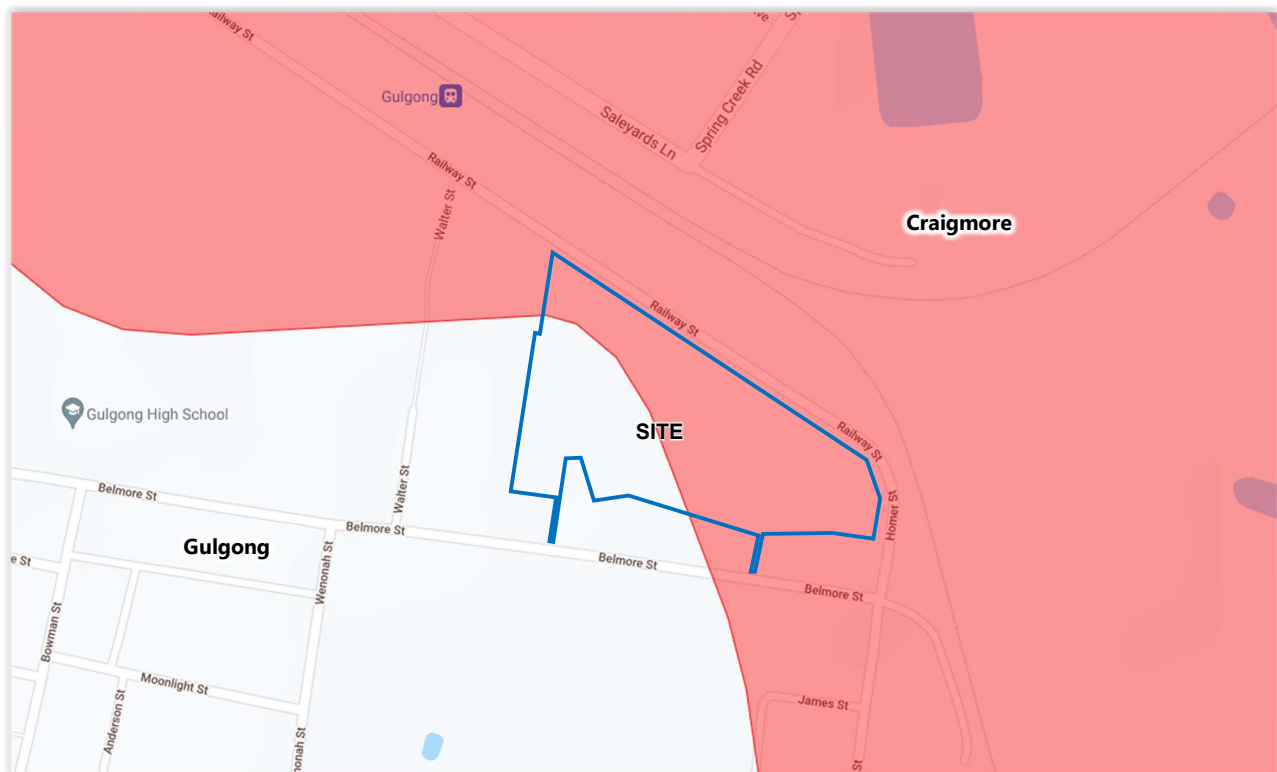
No defined drainage pathways exist on the site, and overland surface flow would be directed to the north-west. The catchment of surface waters at the site includes urban areas beyond the site's southern boundary.

2.4 Regional and Site Geology

Mapped soil landscapes around the site are shown on **Figure 2**. The site lies partially on the [REDACTED] landscape (north-east of site), and partially on the Gulgong soil landscape (south-west of site). During the site inspection the soils were identified to be 'non-calcic brown soils'.

Non-calcic brown soils of the Craigmores and Gulgong soil landscapes consist of "Hardsetting, dark reddish-brown fine sandy loam with weak structure; gradually changing to loam to 25 cm depth" overlying "Reddish-brown light clay; moderate structure to 100 cm depth".

Figure 2 – Extent of ‘Craigmore’ and ‘Gulgong’ Soil Landscape Groups



Rock outcrops were not observed at the site.

The Australian Soil Resource Information System (ASRIS) on-line database, maintained by CSIRO Land and Water, indicates there is a low probability of occurrence of acid sulphate soils in the area of the site (compiled 2010, accessed October 2021).

The NSW Heads of Asbestos Coordination Authorities (HACA) Mapping of Naturally Occurring Asbestos in NSW (2015) has assessed the area surrounding the site as not having significant potential for naturally occurring asbestos (NOA). The site is located approximately 1.8 km east of the closest mapped area corresponding to a geological unit with low potential for NOA.

2.5 Regional Hydrogeology

A search for registered groundwater users located proximal to the site was undertaken using the WaterNSW on-line database (<https://realtimedata.waternsw.com.au/water.stm>), in October 2021. The results indicated that there are no groundwater bores registered at the site, and four (4) bores located within 5 [REDACTED] site, as shown on **Figure 1**. Details are provided in **Table 2.3**.

Table 2.3 – Groundwater Bores within 500 m of Site

Licence Reference and Registered Use	Location (relative to closest portion of site)	Depth	Uppermost Water Bearing Zone
GW013112 (Stock, Domestic)	100 m south	87.3 mBGL	No information
GW047704 (Irrigation)	450 m north-west	68.6 mBGL	No information
GW800646 (Stock, Domestic)	10 m west	72.0 mBGL	42.0 – 66.0 mBGL
GW804338 (Test Bore)	300 m west	96.0 mBGL	35.0 – 38.0 mBGL
Source: NSW Office of Water on-line database (https://realtime.data.waternsw.com.au/water.stm)			

Registration details of the above groundwater bores are included in **Appendix A**.

Premise has considered the surrounding agricultural land uses (refer **Section 3**) and notes the potential for unregistered bores for irrigation and/or domestic purposes proximal to the site.

3. SITE HISTORICAL REVIEW

A review of the site history was undertaken to assess historical use of the site, and in particular to identify activities with the potential to contaminate soil and/or groundwater at the site.

3.1 NSW EPA Records

3.1.1 SCHEDULED ACTIVITIES AND/OR ENVIRONMENTAL NOTICES

A search of the NSW EPA on-line register (<https://www.epa.nsw.gov.au/prpoeoapp/>) was undertaken in October 2021 for environment protection licenses and/or penalty notices issued under the Protection of the Environment Operations Act (POEO) 1997. The search indicated that no licenses have been issued for any of the titles comprising the site or properties located within 500 m of the site.

No clean-up notices relating to the site or surrounding properties have been issued by the NSW EPA.

3.1.2 CONTAMINATED SITES REGISTER

A search of the NSW EPA on-line register (<https://app.epa.nsw.gov.au/prclmapp/searchregister.aspx>) was undertaken in October 2021 for contaminated land notices issued or regulated under the Contaminated Land Management Act 1997. The search indicated that the NSW EPA holds no contaminated land notices relating to the site or properties within 500 m of the site, however the 'Lowes Petroleum (former BP)' site at 6 Railway Street Gulgong (to the north of the investigation site on the northern side of Railway St) was identified as a site that had been notified to the NSW EPA as being potentially contaminated. The NSW EPA have acknowledged the site does not require regulation under the Contaminated Land Management Act 1997, indicating the risk of harm to human-health and/or the environment was not considered to be sufficiently significant.

3.2 Mid-Western Regional Council Planning Records

A copy of the planning certificate under the Environmental Planning and Assessment Act 1979 for Lot 2 DP 613429 was reviewed in October 2021. No matters of potential land contamination were identified in the planning certificate. The planning certificate is attached in **Appendix B**.

3.3 Previous Title Information

Historic title information was sought for the title comprising the site. Previous title ownership for this title is attached in **Appendix C** and summarised in **Table 3.1**:

Table 3.1 – Title History, Lot 2, DP 613429

Date Range	Ownership
1918 to 1963	Volume 2892 Folio 25 Sydney Buckman (Sawmiller) Jerome Anderson (Grazier) Alfred David Anderson (Famer) Herbert Oswald McCabe (Contractor)

Date Range	Ownership
1963 to 1981	Volume 8476 Folio 108 Allan William Sweeny (Shop Proprietor) Edna Sweeny (Married Woman) Neil Joseph O'Brian (Shire Employee) Mellie Agnes O'Brian (Married Woman)
1981	Volume 14309 Folio 41 Brian Joseph Flannery (Engineer)
1981 to present	Lot 2 DP 613429 Ulan Coal Mines Limited

3.4 Historic Aerial Photography

An historical aerial photography survey was undertaken for the site, with a total of six (6) photographs identified and reviewed. The historical aerial photographs that were reviewed spanned a period of approximately 67 years, with the most recent from 2020, to the earliest in 1964. Aerial photographs, as attached in **Appendix D**, were reviewed to track changes in use of the site and surrounding properties over time. Key observations made during the review of aerial photos are summarised in **Table 3.2** as follows:

Table 3.2 – Summary of Aerial Photo Information

Date	Site Activity	Surrounding Land Use
1964	The only feature of note on the site is the dam in the site's north-west. No development is present on the site.	The dwelling at 13 Railway St exists. Grazing paddocks are present to the site's west and south, as well as to the north and east beyond the rail line. The fuel depot at 6 Railway St exists to the north of the site.
1982	The area encompassing the site is generally unchanged.	The dwelling at 7 Railway St exists. Residential subdivision and development has occurred south and west the site. Settlement ponds are present approximately 250 m north of the site. Land uses of the remainder of the surrounding area do not appear to have been significantly altered.
1990	The area encompassing the site is generally unchanged.	The dwelling at 15 Railway St exists. Further development of dwellings on Belmore St to the south has occurred. Land uses of the remainder of the su [REDACTED] do not appear to have been significantly altered.
1994	The area encompassing the site is generally unchanged.	Land uses of the surrounding area do not appear to have been significantly altered.

Date	Site Activity	Surrounding Land Use
2009	The area encompassing the site is generally unchanged.	Railway St to the north of the site is now sealed. Further development of dwellings on Walter St to the west has occurred Residential subdivision and development has occurred. The settlement ponds to the north of the site have been filled and decommissioned. Land uses of the remainder of the surrounding area do not appear to have been significantly altered.
2020	The area encompassing the site is generally unchanged.	Some expansion of the fuel depot at 6 Railway St has occurred. Land uses of the remainder of the surrounding area do not appear to have been significantly altered.

3.5 Summary of Site History Information

The site has been subject to private ownership from 1918 to the present. Based on historical aerial photographs, the area of the site does not appear to have been utilised for any intensive purpose(s) with the land primarily used for pasture, with no permanent structures identified.

No evidence of landfilling was apparent from the historic aerial photography, and the relatively level landform slope indicates little likelihood of 'cut' and/or 'fill' works to have occurred.

The following chemicals are potential contaminants at areas of the site based on known historic uses

- Construction materials (from neighbouring sites)
 - Lead (paint)
 - Asbestos
- Urban runoff and/or agricultural chemical storage
 - Heavy metals, (including arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc)
 - Total Recoverable Hydrocarbons (TRH) / Total Petroleum Hydrocarbons (TPH)
 - Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene (BTEXN Analytes)
 - Polynuclear Aromatic Hydrocarbons (PAHs)
 - Phenolic compounds
 - Organochlorine pesticides (OCPs)
 - Organophosphorus pesticides (OPPs)
 - Phenoxyacid Herbicides
- Agricultural chemical use
 - Organochlorine pesticides (OCPs)
 - Organophosphorus pesticides (OPPs)
 - Phenoxyacetic Acid Herbicides

4. SITE RECONNAISSANCE

Observations from the site inspection are summarised below.

4.1 Waste Management / Landfilling

Evidence of wastes having been disposed on the site by landfilling was not identified at the site. The ground surface was observed to be generally level and no areas of potential subsidence were apparent.

Stressed vegetation, which may be indicative of soil and/or groundwater contamination, was not apparent during the site inspection.

Based on the site topography there is little potential for 'cut-and-fill' civil works to have occurred at the site to create a level area(s) for construction.

4.2 Stormwater

The majority of site stormwater would be infiltrated, however sheet flow would be directed to the north-east, and eventually discharge into tributaries of Cooyal Creek, north-east of the site.

Belmore Street to the south of the site contains stormwater infrastructure to divert and direct surface flow away from the site.

4.3 Chemical and Fuel Storage / Spills

No evidence of storage of significant volumes of fuels, oils or other chemicals was observed at the site. No spills or leaks of chemicals have been recorded, and no staining of surface soil was observed.

No findings of the historic aerial photography review (refer to **Section 3.3**) indicate the presence (historic or otherwise) of bulk chemical storage infrastructure at the site.

No sheep dips or cattle dips were observed at the site.

4.4 Asbestos

Premise did not conduct a comprehensive asbestos survey during the site inspection. No structures were identified at the site which may have incorporated fibrous cement in cladding, roofing, insulation, piping, etc.

4.5 Infrastructure

The drainage diagram for the site was obtained from Mid-Western regional Council and is attached in **Appendix B**. A sewer main was identified to be present along the site's southern boundary, and a branch transects the west of the site.

5. ENVIRONMENTAL INVESTIGATION

5.1 Potential Contamination Issues

5.1.1 POTENTIAL SOURCES

Based on the historic and predominantly agricultural uses of the site, activities that are considered to have the potential to adversely impact the soil environment are limited to the potential presence of temporary structures, urban runoff, and application / storage of agricultural chemicals.

5.1.2 CHEMICALS OF POTENTIAL CONCERN (COPC)

COPC associated with previous uses of the site and considered to have the potential to adversely impact the underlying soil and groundwater environments include:

- Heavy metals, (including arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc);
- Total Recoverable Hydrocarbons (TRH) / Total Petroleum Hydrocarbons (TPH);
- Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene (BTEXN Analytes);
- Polynuclear Aromatic Hydrocarbons (PAHs);
- Polychlorinated Biphenyls (PCBs)
- Organochlorine pesticides (OCPs);
- Organophosphorus pesticides (OPPs);
- Phenoxyacetic Acid Herbicides;
- Phenolic compounds; and
- Asbestos

5.2 Investigation Criteria

The soil investigation levels utilised for this investigation are consistent with those described within the National Environment Protection Council (NEPC), *Amended National Environment Protection (Assessment of Site Contamination) Measure 1999* (Amended ASC NEPM) 2013. Based on future uses at the site including public open space / passive recreation, corresponding investigation levels have been adopted.

- Health Investigation Levels (HIL) A – Residential with garden/accessible soil;
- Health Screening Levels (HSL) A – Vapour intrusion pathway for residential land uses. Where screening levels are non-limiting, Premise has adopted the maximum – or saturation – concentration¹ as the soil investigation level;
- Management Limits – Limits to consider the formation of light non aqueous phase liquids, fire and explosion risks and damage to buried infrastructure in residential, parkland and public open space land use settings;
- Aesthetic issues generally relate to the presence of materials with a negligible risk or non [REDACTED] inert foreign material in soil or fill resulting from human activity. In particular, soils on site should not exhibit discolouration (staining), a malodorous nature (odours) or abnormal consistency (rubble and asbestos).

¹ Soil saturation concentration at which the porewater phase cannot dissolve any more of an individual chemical, adopted from *Amended ASC NEPM* (NEPC, 2013) *Health screening levels for petroleum hydrocarbons in soil and groundwater*

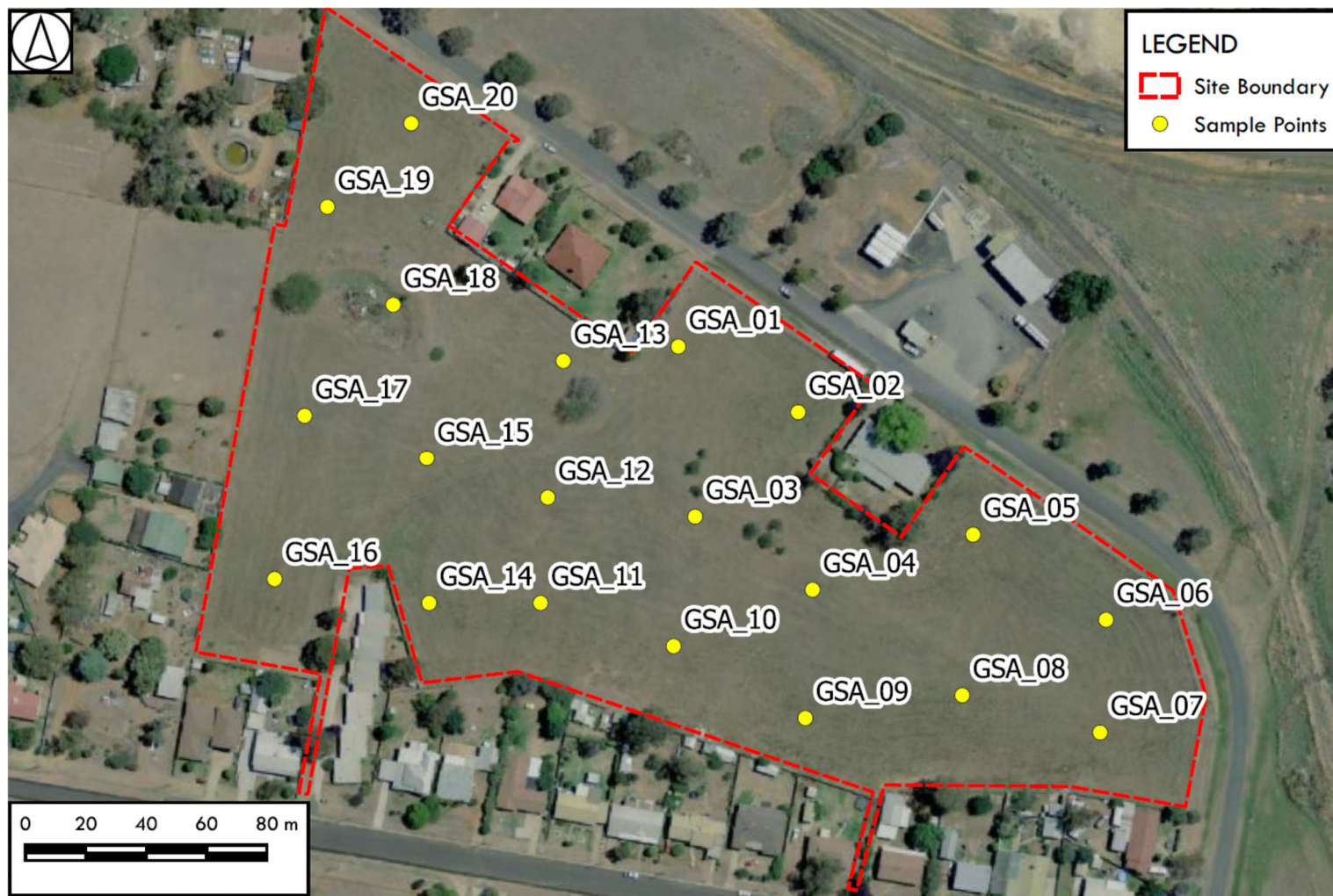
5.3 Methodology

The following table outlines the scope and method of the assessment.

Table 5.1 – Assessment Methodology Summary

Activity / Item	Details
Date of Field Activities	27 September 2021
Samples Collected	Sample locations are shown on Figure 3 20 soil samples were collected in a combined systematic / judgemental sampling pattern from across the site.
Methodology	Soil samples were collected directly by hand auger. All samples were placed in clean, laboratory-supplied acid washed solvent rinsed glass jars with Teflon® lids.
Sample Preservation	Samples were stored on ice in an esky whilst on-site and in transit to the laboratory.
Decontamination	Re-usable equipment was decontaminated before each use using decontamination solution, then rinsed in potable water. Dedicated single-use items were not decontaminated, but were disposed following use. Nitrile gloves used for sampling were changed between each sample.

Figure 3 – Investigation Sample Locations



5.4 Sample Analysis

20 samples of soils where potential for COPC impacts to be present were submitted to ALS Laboratories (ALS) for analysis. ALS is NATA (National Association of Testing Authorities) certified for the analyses performed.

Soil samples were analysed COPC described in **Section 5.1.2**, as appropriate.

5.5 Analytical Results

Soil descriptions were logged as brown loamy-clay across the site. No evidence of buried waste or stained material was apparent during collection of soil samples.

Soil analytical results are presented in the laboratory certificates in **Appendix E** and summarised in **Table 1** (attached). All soil samples met the investigation criteria for the respective analytes (refer to **Section 5.2**).

Samples analysed for TRH and TPH, phenolic compounds, PAHs, OCPs, OPPs, Phenoxyacetic Acid Herbicides and PCBs did not record concentrations of these analytes above the LOR.

Laboratory quality control results and chain of custody (COC) documentation are provided in **Appendix F**.

5.6 Discussion

COPC concentrations were below guideline criteria for residential land uses, and no findings of concentrations elevated above background concentrations were recorded.

Areas of the site did not record concentrations of COPC above the laboratory limits of detection, with the exception of heavy metals which were considered representative of background concentrations.

6. CONCLUSIONS

Premise make the following conclusions regarding the potential for land contamination at the site, based on a desktop review of available information, a review of historical records, site walkover reconnaissance, and analytical results of collected samples.

- The area comprising the site, consisting of Lot 2 in DP 613429 appears to have predominantly been historically utilised for passive rural / agricultural purposes.
- Based on known activities at or in the vicinity of the site, and observations during the inspection in September 2021, no significant routes of exposure by receptors (current or future) to potential contamination sources have been identified, due to negligible impacts present. The potential risk of any residual contamination impacts, if present, would be minor in scale and may be adequately managed by conducting works in accordance with appropriate construction industry standards.
- Based on the findings of this preliminary site investigation, Premise considers that any residual environmental impacts are likely to be aesthetic in nature and, if identified, may be managed by industry-standard waste management practices.



DATA TABLES



TABLE 1: 1 Railway Street Gulgong Subdivision - Site Investigation, Soil Sampling Analytical Results
SEPTEMBER 2021



Group	Analyte	LOR	Units	Criteria	Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10	GSA_11
					Sample Date	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021
Physical Parameters	Moisture Content	1	%	-	PS	11.2	8.8	-	7.8	-	9.2	-	8.3	8.5	9.3	-
	Moisture Content	0.1	%	-	PS	-	-	8.6	-	7	-	9.6	-	-	-	7.9
Trace Metals	Arsenic (As)	5	mg/kg	100	-	12	-	-	-	-	9	-	-	10	-	-
	Cadmium (Cd)	1	mg/kg	20	-	< 1	-	-	-	-	< 1	-	-	< 1	-	-
	Chromium (Cr)	2	mg/kg	100	-	43	-	-	-	-	40	-	-	50	-	-
	Copper (Cu)	5	mg/kg	6000	-	21	-	-	-	-	17	-	-	17	-	-
	Lead (Pb)	5	mg/kg	300	-	26	-	-	-	-	17	-	-	19	-	-
	Mercury (Hg)	0.1	mg/kg	40	-	< 0.1	-	-	-	-	< 0.1	-	-	< 0.1	-	-
	Nickel (Ni)	2	mg/kg	400	-	17	-	-	-	-	13	-	-	15	-	-
	Zinc (Zn)	5	mg/kg	7400	-	17	-	-	-	-	16	-	-	13	-	-
Total Recoverable Hydrocarbons	TRH C6-C10	10	mg/kg	700	-	< 10	-	-	-	-	< 10	-	-	< 10	-	-
	TRH C6-C10 less BTEX (F1)	10	mg/kg	45	-	< 10	-	-	-	-	< 10	-	-	< 10	-	-
	TRH >C10-C16	50	mg/kg	1000	-	< 50	-	-	-	-	< 50	-	-	< 50	-	-
	TRH >C10-C16 less Naphthalene (F2)	50	mg/kg	110	-	< 50	-	-	-	-	< 50	-	-	< 50	-	-
	TRH >C16-C34	100	mg/kg	2500	-	< 100	-	-	-	-	< 100	-	-	< 100	-	-
	TRH >C34-C40	100	mg/kg	10000	-	< 100	-	-	-	-	< 100	-	-	< 100	-	-
	TRH C10-C40	50	mg/kg	-	-	< 50	-	-	-	-	< 50	-	-	< 50	-	-
Total Petroleum Hydrocarbons	TRH C6-C9	10	mg/kg	-	-	< 10	-	-	-	-	< 10	-	-	< 10	-	-
	TRH C10-C14	50	mg/kg	-	-	< 50	-	-	-	-	< 50	-	-	< 50	-	-
	TRH C15-C28	100	mg/kg	-	-	< 100	-	-	-	-	< 100	-	-	< 100	-	-
	TRH C29-C36	100	mg/kg	-	-	< 100	-	-	-	-	< 100	-	-	< 100	-	-
	TRH C10-C36	50	mg/kg	-	-	< 50	-	-	-	-	< 50	-	-	< 50	-	-
BTEXN Analytes	Benzene	0.2	mg/kg	0.5	-	< 0.2	-	-	-	-	< 0.2	-	-	< 0.2	-	-
	Toluene	0.5	mg/kg	160	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Ethylbenzene	0.5	mg/kg	55	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	meta- & para-Xylene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	ortho-Xylene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Total Xylenes	0.5	mg/kg	40	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Sum of BTEX	0.2	mg/kg	-	-	< 0.2	-	-	-	-	< 0.2	-	-	< 0.2	-	-
Polynuclear Aromatic Hydrocarbons	Acenaphthene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Anthracene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(a)anthracene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(b&j)fluoranthene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(ghi)perylene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Chrysene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Dibenzo(ah)anthracene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Fluoranthene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Fluorene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Naphthalene	0.5	mg/kg	3	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Naphthalene	1	mg/kg	3	-	< 1	-	-	-	-	< 1	-	-	< 1	-	-
	Phenanthrene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Pyrene	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Total PAHs	0.5	mg/kg	300	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Benzo(a)pyrene TEQ (half LOR)	0.5	mg/kg	3	-	0.6	-	-	-	-	0.6	-	-	0.6	-	-
	Benzo(a)pyrene TEQ (LOR)	0.5	mg/kg	-	-	1.2	-	-	-	-	1.2	-	-	1.2	-	-
	Benzo(a)pyrene TEQ (zero)	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
Phenolics	2,4-Dimethylphenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Total Phenols	0.5	mg/kg	3000	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2,4-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	4-Chloro-3-methylphenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2,6-Dichlorophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Pentachlorophenol	2	mg/kg	100	-	< 2	-	-	-	-	< 2	-	-	< 2	-	-
	2,4,6-Trichlorophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2-Nitrophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2-Methylphenol (o-Cresol)	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2-Chlorophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	2,4,5-Trichlorophenol	0.5	mg/kg	-	-	< 0.5	-	-	-	-	< 0.5	-	-	< 0.5	-	-
	Aldrin	0.05	mg/kg	3	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-

TABLE 1: 1 Railway Street Gulgong Subdivision - Site Investigation, Soil Sampling Analytical Results
SEPTEMBER 2021



	Sample ID															
					GSA_01	GSA_02	GSA_03	GSA_04	GSA_05	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10	GSA_11	
				Sample Date	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	
Group	Analyte	LOR	Units	Criteria	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	PS	
	Dieldrin	0.05	mg/kg	3	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Alpha BHC	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Alpha Chlordane	0.05	mg/kg	25	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Alpha Endosulfan	0.05	mg/kg	90	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Beta Endosulfan	0.05	mg/kg	90	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Endosulfan sulphate	0.05	mg/kg	90	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Beta BHC	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Delta BHC	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Endrin	0.05	mg/kg	10	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Heptachlor	0.05	mg/kg	6	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Hexachlorobenzene (HCB)	0.05	mg/kg	10	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Lindane (gamma BHC)	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Methoxychlor	0.2	mg/kg	300	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	-	
	p,p'-DDD	0.05	mg/kg	40	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	p,p'-DDE	0.05	mg/kg	40	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	p,p'-DDT	0.2	mg/kg	40	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	-	
	trans-Chlordane	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	DDD + DDE + DDT (sum)	0.05	mg/kg	240	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Total Chlordane (sum)	0.05	mg/kg	50	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Endosulfan (sum)	0.05	mg/kg	270	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	Aldrin + Dieldrin (sum)	0.05	mg/kg	6	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
	OP Pesticides	Azinphos-methyl	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Bromophos Ethyl	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	0.05	mg/kg	160	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Diazinon (Dimpylate)	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Dichlorvos	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Dimethoate	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Ethion	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Malathion	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Parathion-ethyl (Parathion)	0.2	mg/kg	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	-
		Chlorpyrifos-methyl	0.05	mg/kg	160	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Demeton-S-methyl	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Monocrotophos	0.2	mg/kg	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	-
		Parathion-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	-
		Fenthion	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Pirimphos-ethyl	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
		Chlorfenvinphos	0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-
Fenamiphos		0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
Prothiofos		0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
Carbophenothion		0.05	mg/kg	-	< 0.05	< 0.05	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	-	
Asbestos ID	Asbestos Detected*	0.1	g/kg	0.1	-	-	-	-	< 0.1	-	-	-	< 0.1	-	-	
	Sample weight (dry)	0.01	g	-	-	-	-	-	20.4	-	-	-	18.8	-	-	
Polychlorinated Biphenyls	Total Polychlorinated biphenyls	0.1	mg/kg	1	-	< 0.1	-	-	-	< 0.1	-	-	< 0.1	-	-	
Phenoxyacetic Acid Herbicides	Picloram	0.02	mg/kg	4500	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	2,4-DP	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	4-Chlorophenoxy acetic acid	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	Clopyralid	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	Dicamba	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	Triclopyr	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	Fluroxypyr	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	Mecoprop	0.02	mg/kg	600	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	2,4,5-TP (Silvex)	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	2,4,5-T	0.02	mg/kg	600	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	MCPA	0.02	mg/kg	600	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	2,4-D	0.02	mg/kg	900	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	MCPB	0.02	mg/kg	600	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
	2,4-DB	0.02	mg/kg	-	-	-	< 0.04	-	< 0.04	-	< 0.04	-	-	-	< 0.04	
		0	0		-	-	-	-	-	-	-	-	-	-	-	

mg/kg milligrams per kilogram
mBGL metres below ground level
LOR limit of reporting
PS primary sample
FD field duplicate
TEQ toxicity equivalent quotient
Criteria Criteria adopted from *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPC 2013)

TABLE 1: 1 Railway Street Gulgong Subdivision - Site Investigation, Soil Sampling Analytical Results
SEPTEMBER 2021



Group	Analyte	LOR	Units	Criteria	Sample ID	GSA_12	GSA_13	GSA_14	GSA_15	GSA_16	GSA_17	GSA_18	GSA_19	GSA_20	GSA_20D
					Sample Date	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021
Physical Parameters	Moisture Content	1	%	-	PS	8.7	-	11.3	-	-	8	-	9.9	-	-
	Moisture Content	0.1	%	-	PS	-	-	-	-	7.9	-	9.8	-	9.3	7.1
Trace Metals	Arsenic (As)	5	mg/kg	100	PS	12	-	-	-	19	-	14	-	-	-
	Cadmium (Cd)	1	mg/kg	20	PS	< 1	-	-	-	< 1	-	< 1	-	-	-
	Chromium (Cr)	2	mg/kg	100	PS	54	-	-	-	53	-	54	-	-	-
	Copper (Cu)	5	mg/kg	6000	PS	21	-	-	-	22	-	31	-	-	-
	Lead (Pb)	5	mg/kg	300	PS	18	-	-	-	35	-	220	-	-	-
	Mercury (Hg)	0.1	mg/kg	40	PS	< 0.1	-	-	-	< 0.1	-	< 0.1	-	-	-
	Nickel (Ni)	2	mg/kg	400	PS	16	-	-	-	22	-	20	-	-	-
	Zinc (Zn)	5	mg/kg	7400	PS	21	-	-	-	31	-	287	-	-	-
Total Recoverable Hydrocarbons	TRH C6-C10	10	mg/kg	700	PS	< 10	-	-	-	< 10	-	< 10	-	-	-
	TRH C6-C10 less BTEX (F1)	10	mg/kg	45	PS	< 10	-	-	-	< 10	-	< 10	-	-	-
	TRH >C10-C16	50	mg/kg	1000	PS	< 50	-	-	-	< 50	-	< 50	-	-	-
	TRH >C10-C16 less Naphthalene (F2)	50	mg/kg	110	PS	< 50	-	-	-	< 50	-	< 50	-	-	-
	TRH >C16-C34	100	mg/kg	2500	PS	< 100	-	-	-	< 100	-	< 100	-	-	-
	TRH >C34-C40	100	mg/kg	10000	PS	< 100	-	-	-	< 100	-	< 100	-	-	-
	TRH C10-C40	50	mg/kg	-	PS	< 50	-	-	-	< 50	-	< 50	-	-	-
Total Petroleum Hydrocarbons	TRH C6-C9	10	mg/kg	-	PS	< 10	-	-	-	< 10	-	< 10	-	-	-
	TRH C10-C14	50	mg/kg	-	PS	< 50	-	-	-	< 50	-	< 50	-	-	-
	TRH C15-C28	100	mg/kg	-	PS	< 100	-	-	-	< 100	-	< 100	-	-	-
	TRH C29-C36	100	mg/kg	-	PS	< 100	-	-	-	< 100	-	< 100	-	-	-
	TRH C10-C36	50	mg/kg	-	PS	< 50	-	-	-	< 50	-	< 50	-	-	-
BTEXN Analytes	Benzene	0.2	mg/kg	0.5	PS	< 0.2	-	-	-	< 0.2	-	< 0.2	-	-	-
	Toluene	0.5	mg/kg	160	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Ethylbenzene	0.5	mg/kg	55	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	meta- & para-Xylene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	ortho-Xylene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Total Xylenes	0.5	mg/kg	40	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Sum of BTEX	0.2	mg/kg	-	PS	< 0.2	-	-	-	< 0.2	-	< 0.2	-	-	-
Polynuclear Aromatic Hydrocarbons	Acenaphthene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Acenaphthylene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Anthracene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(a)anthracene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(a)pyrene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(b,j)fluoranthene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(ghi)perylene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(k)fluoranthene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Chrysene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Dibenzo(ah)anthracene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Fluoranthene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Fluorene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Naphthalene	0.5	mg/kg	3	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Naphthalene	1	mg/kg	3	PS	< 1	-	-	-	< 1	-	< 1	-	-	-
	Phenanthrene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Pyrene	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Total PAHs	0.5	mg/kg	300	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Benzo(a)pyrene TEQ (half LOR)	0.5	mg/kg	3	PS	0.6	-	-	-	0.6	-	0.6	-	-	-
	Benzo(a)pyrene TEQ (LOR)	0.5	mg/kg	-	PS	1.2	-	-	-	1.2	-	1.2	-	-	-
	Benzo(a)pyrene TEQ (zero)	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
Phenolics	2,4-Dimethylphenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Total Phenols	0.5	mg/kg	3000	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2,4-Dichlorophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	4-Chloro-3-methylphenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2,6-Dichlorophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	Pentachlorophenol	2	mg/kg	100	PS	< 2	-	-	-	< 2	-	< 2	-	-	-
	2,4,6-Trichlorophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2-Nitrophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2-Methylphenol (o-Cresol)	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2-Chlorophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	2,4,5-Trichlorophenol	0.5	mg/kg	-	PS	< 0.5	-	-	-	< 0.5	-	< 0.5	-	-	-
	OC Pesticides	0.05	mg/kg	3	PS	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	-	-

TABLE 1: 1 Railway Street Gulgong Subdivision - Site Investigation, Soil Sampling Analytical Results
SEPTEMBER 2021



Group	Analyte	LOR	Units	Criteria	Sample ID										PS	FD
					GSA 12	GSA 13	GSA 14	GSA 15	GSA 16	GSA 17	GSA 18	GSA 19	GSA 20	GSA 20D		
					27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021	27/09/2021		
	Dieldrin	0.05	mg/kg	3	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Alpha BHC	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Alpha Chlordane	0.05	mg/kg	25	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Alpha Endosulfan	0.05	mg/kg	90	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Beta Endosulfan	0.05	mg/kg	90	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Endosulfan sulphate	0.05	mg/kg	90	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Beta BHC	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Delta BHC	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Endrin	0.05	mg/kg	10	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Heptachlor	0.05	mg/kg	6	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Hexachlorobenzene (HCB)	0.05	mg/kg	10	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Lindane (gamma BHC)	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Methoxychlor	0.2	mg/kg	300	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	-	-
	p,p'-DDD	0.05	mg/kg	40	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	p,p'-DDE	0.05	mg/kg	40	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	p,p'-DDT	0.2	mg/kg	40	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	-	-
	trans-Chlordane	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	DDD + DDE + DDT (sum)	0.05	mg/kg	240	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Total Chlordane (sum)	0.05	mg/kg	50	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Endosulfan (sum)	0.05	mg/kg	270	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Aldrin + Dieldrin (sum)	0.05	mg/kg	6	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
OP Pesticides	Azinphos-methyl	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Bromophos Ethyl	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Chlorpyrifos (Chlorpyrifos Ethyl)	0.05	mg/kg	160	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Diazinon (Dimpylate)	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Dichlorvos	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Dimethoate	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Ethion	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Malathion	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Parathion-ethyl (Parathion)	0.2	mg/kg	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	-	-
	Chlorpyrifos-methyl	0.05	mg/kg	160	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Demeton-S-methyl	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Monocrotophos	0.2	mg/kg	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	-	-
	Parathion-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	-	-
	Fenthion	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Pirimphos-ethyl	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Chlorfenvinphos	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Fenamiphos	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Prothiofos	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
	Carbophenothion	0.05	mg/kg	-	< 0.05	-	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-	-
Asbestos ID	Asbestos Detected*	0.1	g/kg	0.1	-	< 0.1	-	< 0.1	-	-	-	< 0.1	-	-	-	-
	Sample weight (dry)	0.01	g	-	-	233	-	242	-	-	-	17.3	-	-	-	-
Polychlorinated Biphenyls	Total Polychlorinated biphenyls	0.1	mg/kg	1	< 0.1	-	-	-	< 0.1	-	-	< 0.1	-	-	-	-
Phenoxyacetic Acid Herbicides	Picloram	0.02	mg/kg	4500	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	2,4-DP	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	4-Chlorophenoxy acetic acid	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	Clopyralid	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	Dicamba	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	Triclopyr	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	Fluroxypyr	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	Mecoprop	0.02	mg/kg	600	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	2,4,5-TP (Silvex)	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	2,4,5-T	0.02	mg/kg	600	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	MCPA	0.02	mg/kg	600	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	2,4-D	0.02	mg/kg	900	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	MCPB	0.02	mg/kg	600	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
	2,4-DB	0.02	mg/kg	-	-	-	-	-	< 0.04	-	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
		0	0		-	-	-	-	-	-	-	-	-	-	-	-

mg/kg milligrams per kilogram
mBGL metres below ground level
LOR limit of reporting
PS primary sample
FD field duplicate
TEQ toxicity equivalent quotient
Criteria Criteria adopted from National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013)



PLATES



Plate 1 – Site North, South-West Aspect



Plate 2 – Site South-West, North-East Aspect



Plate 3 – Site South-West, North Aspect (1 of 2)



Plate 4 – Site South-West, North Aspect (2 of 2)



Plate 5 – Site West, East Aspect



Plate 6 – Site Central, West Aspect





APPENDIX A

REGISTERED GROUNDWATER BORE RECORDS



WaterNSW

Work Summary

GW013112

Licence:

Licence Status:

Authorised Purpose(s):

Intended Purpose(s): STOCK, DOMESTIC

Work Type: Bore open thru rock

Work Status:

Construct.Method: Cable Tool

Owner Type: Private

Commenced Date:

Completion Date: 01/05/1957

Final Depth: 87.30 m

Drilled Depth: 87.40 m

Contractor Name: (None)

Driller:

Assistant Driller:

Property:

GWMA:

GW Zone:

Standing Water Level (m):

Salinity Description:

Yield (L/s):

Site Details

Site Chosen By:

County
Form A: PHILLIP
Licensed:

Parish
GULGONG

Cadastre
SEC 83

Region: 80 - Macquarie-Western

CMA Map: 8833-3N

River Basin: 421 - MACQUARIE RIVER
Area/District:

Grid Zone:

Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)

Northing: 6416583.000
Easting: 739583.000

Latitude: 32°21'43.4"S
Longitude: 149°32'46.2"E

GS Map: -

MGA Zone: 55

Coordinate Source: GD.,ACC.MAP

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	Threaded Steel	-0.30	58.50	152			Suspended in Clamps

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.91	0.91	Soil Red	Soil	
0.91	18.28	17.37	Clay Yellow	Clay	
18.28	24.99	6.71	Clay Yellow Quartz Seams	Clay	
24.99	50.13	25.14	Clay Yellow White Quartz Seams	Clay	
50.13	57.15	7.02	Slate Grey	Slate	
57.15	87.40	30.25	Diorite	Diorite	

*** End of GW013112 ***

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WaterNSW

Work Summary

GW047704

Licence:

Licence Status:

Authorised Purpose(s):

Intended Purpose(s): IRRIGATION

Work Type: Bore

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 01/07/1980

Final Depth: 68.60 m

Drilled Depth: 68.60 m

Contractor Name: (None)

Driller:

Assistant Driller:

Property:

GWMA:

GW Zone:

Standing Water Level (m):

Salinity Description:

Yield (L/s):

Site Details

Site Chosen By:

County
Form A: PHILLIP
Licensed:

Parish
GULGONG

Cadastre
70

Region: 80 - Macquarie-Western

CMA Map: 8833-3N

River Basin: 421 - MACQUARIE RIVER
Area/District:

Grid Zone:

Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: (Unknown)

Northing: 6417363.000
Easting: 739183.000

Latitude: 32°21'18.4"S
Longitude: 149°32'30.2"E

GS Map: -

MGA Zone: 55

Coordinate Source: GD.,ACC.MAP

Construction

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

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

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	Topsoil	Topsoil	
0.30	42.70	42.40	Clay	Clay	
42.70	53.30	10.60	Granite Decomposed Clay	Granite	
53.30	68.60	15.30	Granite	Granite	

*** End of GW047704 ***

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WaterNSW

Work Summary

GW800646

Licence:

Licence Status:

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

Work Type: Bore

Work Status: Supply Obtained

Construct.Method: Down Hole Hammer

Owner Type: Private

Commenced Date:
Completion Date: 27/01/1999

Final Depth: 72.00 m
Drilled Depth: 72.00 m

Contractor Name: JD DRILLING

Driller: Michael Clarence Wall

Assistant Driller:

Property:
GWMA:
GW Zone:

Standing Water Level (m): 25.000
Salinity Description:
Yield (L/s): 0.880

Site Details

Site Chosen By:

County
Form A: PHILLIP
Licensed:

Parish
GULGONG

Cadastre
LOT 2 DP209945

Region: 80 - Macquarie-Western

CMA Map: 8833-S

River Basin: 421 - MACQUARIE RIVER
Area/District:

Grid Zone:

Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown

Northing: 6416859.000
Easting: 739363.000

Latitude: 32°21'34.6"S
Longitude: 149°32'37.5"E

GS Map: -

MGA Zone: 55

Coordinate Source: Map Interpre

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	4.00	210			Rotary Air
1		Hole	Hole	4.00	66.00	210			Down Hole Hammer
1		Hole	Hole	66.00	72.00	112			Down Hole Hammer
1	1	Casing	Pvc Class 9	-0.70	66.00	175			Seated on Bottom, Cemented, Screwed and Glued
1	1	Opening	Slots - Vertical	42.00	66.00	160		0	Sawn, PVC Class 9, SL: 150.0mm, A: 3.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
42.00	66.00	24.00	Unknown	25.00		0.88	66.00	02:00:00	1408.00

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Topsoil, dark brown	Topsoil	
1.00	12.00	11.00	Shale, weathered, red	Shale	
12.00	64.00	52.00	Shale, weathered, light brown, firm	Shale	
64.00	72.00	8.00	Shale, grey, hard, sandy	Shale	

*** End of GW800646 ***

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WaterNSW

Work Summary

GW804338

Licence:

Licence Status:

Authorised Purpose(s):

Intended Purpose(s): TEST BORE

Work Type: Bore

Work Status: Supply Obtained

Construct.Method: Rotary Air

Owner Type: School

Commenced Date:

Completion Date: 20/08/2008

Final Depth: 96.00 m

Drilled Depth: 96.00 m

Contractor Name: MT MCKECHNIE DRILLING & PUMPING

Driller: Malcolm Dexter Mckechnie

Assistant Driller: C Carey

Property:

GWMA:

GW Zone:

Standing Water Level (m): 28.000

Salinity Description: Good

Yield (L/s): 2.000

Site Details

Site Chosen By:

County
Form A: PHILLIP
Licensed:

Parish
GULGONG

Cadastre
2//433114

Region: 80 - Macquarie-Western

CMA Map: 8833-3N

River Basin: 421 - MACQUARIE RIVER

Grid Zone:

Scale:

Area/District:

Elevation: 0.00 m (A.H.D.)

Elevation Source: Unknown

Northing: 6416835.000

Easting: 739060.000

Latitude: 32°21'35.6"S

Longitude: 149°32'26.0"E

GS Map: -

MGA Zone: 55

Coordinate Source: GIS - Geogra

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	64.50	200			Rotary Air
1		Hole	Hole	64.50	96.00	125			Rotary Air
1		Annulus	Waterworn/Rounded	0.00	64.50	200	125		Graded, Q:2.000m3, PL:Poured/Shovelled
1	1	Casing	Pvc Class 9	0.00	65.00	125			Driven into Hole, Riveted, S: 81.00-96.00m
1	1	Opening	Slots - Vertical	30.00	50.00	125		0	Mechanically Slotted, PVC Class 9, Riveted, SL: 200.0mm, A: 2.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
35.00	38.00	3.00	Unknown			0.50		02:00:00	
49.00	50.00	1.00	Unknown			0.50			
80.00	81.00	1.00	Unknown			1.00			

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Topsoil	Topsoil	
1.00	59.00	58.00	Shale	Shale	
59.00	96.00	37.00	Basalt	Basalt	

Remarks

20/08/2008: Form A Remarks:

Nat Carling, 8-Sept-2010: All details were provided by school on Form AG, requested Form A from the drilling contractor. No location was provided, based in the centre of the authorised land. Map sent to school for true location.

03/11/2010: Nat Carling, 3-Nov-2010: Updated details, as provided on driller's Form-A.

04/11/2010: Nat Carling, 4-Nov-2010: Updated cadastre & coordinates, based on location map provided by owner.

03/04/2012: Nat Carling, 3-Apr-2012: Attached new water licence's as directed.

*** End of GW804338 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.



APPENDIX B

MID WESTERN REGIONAL COUNCIL PLANNING RECORDS



Planning Certificate

Under Section 10.7 Environmental Planning and Assessment Act 1979

APPLICANT

Premise Australia
154 Peisley Street
ORANGE NSW 2800

Certificate No:	PC0348/2022
Receipt No:	460684
Date:	30 September 2021
Property No:	4862
Customer Ref:	322037
Property Address:	1-5 Railway Street GULGONG NSW 2852
Property Description:	Lot 2 DP 613429

In accordance with Section 10.7(2) of the Environmental Planning and Assessment Act 1979, it is certified that at the date of this certificate the following prescribed matters relate to the land:

INFORMATION PROVIDED PURSUANT TO SECTION 10.7(2) OF THE ACT:

MID-WESTERN REGIONAL LOCAL ENVIRONMENTAL PLAN 2012

This planning instrument was published 10 August 2012 on the NSW Legislation website and applies to all the land within Mid-Western Region Local Government Area.

Currently the land is zoned:

R1 General Residential

Note: where two or more zones appear the property is affected in part by each zone.

Land use Zoning Table:

The following land use zoning table(s) apply to the land the subject of this Certificate.

Zone R1 General Residential

2 Permitted without consent

Home-based child care; Home businesses; Home occupations; Roads; Rural workers' dwellings; Water reticulation systems.

3 Permitted with consent

Attached dwellings; Boarding houses; Caravan parks; Centre-based child care facilities; Community facilities; Dwelling houses; Educational establishments; Environmental protection works; Exhibition homes; Exhibition villages; Flood mitigation works; Function centres; Funeral homes; Group homes; Health services facilities; Home industries; Hostels; Information and education facilities; Markets; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Residential accommodation; Residential flat buildings; Respite day care centres; Semi-detached dwellings; Seniors housing; Sewage reticulation systems; Shop top housing; Signage; Tank-based aquaculture; Tourist and visitor accommodation; Water recycling facilities; Water storage facilities.

4 Prohibited

Advertising structures; Farm stay accommodation; Any other development not specified in item 2 or 3.

OTHER PRESCRIBED INFORMATION PURSUANT TO SECTION 10.7(2) OF THE ACT:

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy No 21-Caravan Parks

State Environmental Planning Policy No 33-Hazardous and Offensive Development

State Environmental Planning Policy No 36-Manufactured Home Estates

State Environmental Planning Policy No 50-Canal Estate Development

State Environmental Planning Policy No 55-Remediation of Land

State Environmental Planning Policy No 64-Advertising and Signage

State Environmental Planning Policy No 65-Design Quality of Residential Apartment Development

State Environmental Planning Policy No 70 - Affordable Housing (Revised Schemes)

State Environmental Planning Policy (Concurrences and Consents) 2018

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environmental Planning Policy (Primary Production and Rural Development) 2019

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

The following Development Control Plan applies to the land:

Mid-Western Regional Development Control Plan 2013.

Land Not Within Conservation Area

The land the subject of this Certificate is **not** within a Heritage Conservation Area as identified in the Mid-Western Regional LEP 2012.

Not an Item of Environmental Heritage

The land the subject of this certificate is **not** identified in Schedule 5 of the Mid-Western Regional LEP 2012 as an item of Environmental Heritage.

Dwelling Houses - All Other Zones

Mid-Western Regional Local Environmental Plan 2012 does not specify a minimum lot size for the erection of a dwelling in this zone. Approval must be obtained either through the Development Application or Complying Development Certificate process prior to the erection of a dwelling on this land.

The Land is Not Subject to Road Widening

Council's records indicate that the land the subject of this Certificate is NOT affected by any road widening or road re-alignment under:

- 1) Division 2 of the Roads Act, 1993;
- 2) Section 262 of the former Local Government Act, 1919;
- 3) Any Environmental Planning Instrument
- 4) Any resolution of Council.

Coastal Protection

Council has not been notified, by the Department of Public Works, that the land the subject of this Certificate is affected by the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

Risk of Land Slip or Subsidence

No information available re land slip or subsidence. Land is not within a Proclaimed Mine Subsidence District.

Identified Critical Habitat

The land the subject of this Certificate does not contain any identified critical habitats.

No Acquisition by Public Authority

The land the subject of this certificate is NOT subject to acquisition by a public authority under a planning scheme or a draft planning instrument.

SEPP (Exempt & Complying Development Codes) 2008

Complying Development may be carried out on this land under the State Environmental Planning Policy SEPP (Exempt and Complying Development Codes) 2008.

Note: For land that is bushfire prone or a flood control lot MUST satisfy additional requirements of the SEPP (Exempt & Complying Development Codes) 2008. Please contact Council to discuss these requirements.

Contribution Plans

Mid-Western Regional Contributions Plan 2019.

Land is Not Bushfire Prone

The subject land is not bush fire prone land.

ADDITIONAL INFORMATION PURSUANT TO SECTION 10.7(5) OF THE ACT:

Development Consent Has Not Been Granted

Council's records indicate that Development Consent with respect to the land the subject of this Certificate has NOT been granted within the last five years.

Tree Preservation Order

The land the subject of this Certificate may be affected by a Tree Preservation Order. An application is required from Council for removal of trees that are listed on Council's significant tree register.

For further information please contact
Planning & Development Section

K CREAN
CUSTOMER SERVICE OFFICER

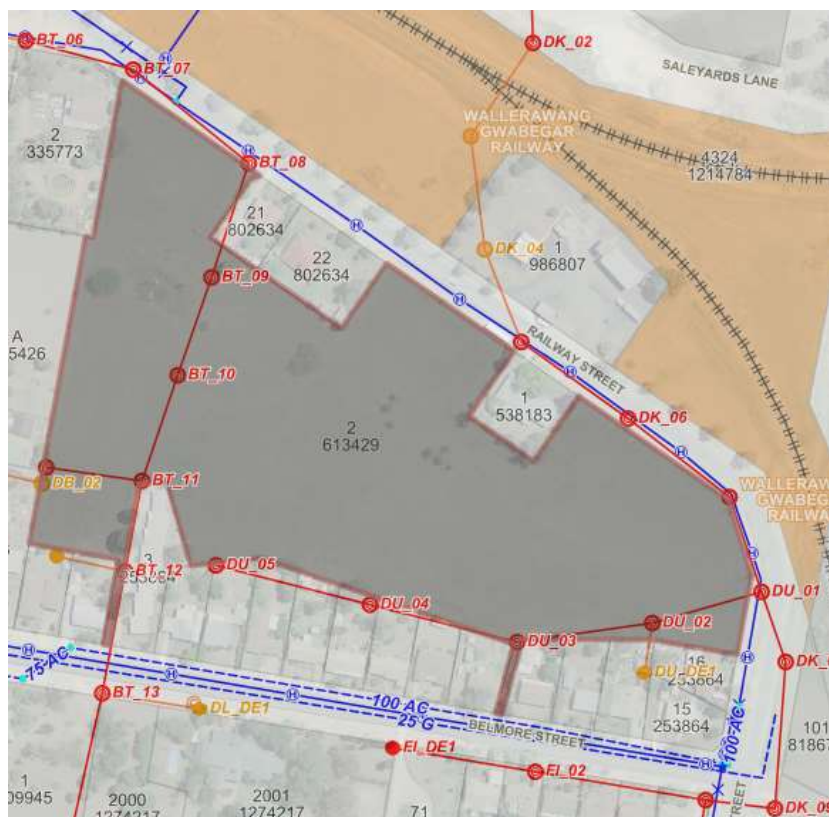
Certificate No. 1075 1573311

DRAINAGE DIAGRAM

OUR REF: 4862
YOUR REF: 322037
APPLICANT: Premise Australia

DIAGRAM NO: DD0220/2022

PROPERTY: 1-5 Railway Street GULGONG NSW 2852
BEING: Lot 2 DP 613429



Legend

— Sewer (exact location) — Water — Parks & Gardens Irrigation, not accessible (if shown)
— Sewer (indicative location)

In good faith we have produced this diagram in the ordinary course of administration. Our records indicate the sewer lines to be the located as above in relation to this property. Note the sewer legend explains if this diagram is an indicative or exact location point.

NOT DRAWN TO SCALE

Receipt No. 460684

Authorised By: M MARTIN

Date: 01/10/2021

Disclaimer: Council accepts no responsibility for any errors or omissions and shall not be liable for any loss or damage associated directly or indirectly through the use of or reliance on, the information contained on the diagram. Persons excavating must exercise care and will be held responsible for any damage to Council's infrastructure. Only licensed plumbers are permitted to carry out any plumbing and drainage work. The diagram must not be taken to infer approval.

APPENDIX C

TITLE RECORDS





Summary of Owners Report

Address: 1 Railway Street, Gulgong, NSW 2852

Description: - Lot 2 D.P. 613429

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
12.11.1918 (1918 to 1925)	Sydney Buckman (Sawmiller)	Volume 2892 Folio 25 (Crown Grant)
18.03.1925 (1925 to 1927)	Jerome Anderson (Grazier)	Volume 2892 Folio 25
21.04.1927 (1927 to 1929)	Alfred David Anderson (Famer)	Volume 2892 Folio 25
15.03.1929 (1929 to 1963)	Herbert Oswald McCabe (Contractor)	Volume 2892 Folio 25
13.09.1963 (1963 to 1965)	Allan William Sweeny (Shop Proprietor) Edna Sweeny (Married Woman) (Section 94 Application not investigated)	Volume 2892 Folio 25 Now Volume 8476 Folio 108
17.08.1965 (1965 to 1981)	Neil Joseph O'Brian (Shire Employee) Mellie Agnes O'Brian (Married Woman)	Volume 8476 Folio 108 Then Volume 11166 Folios 239 to 240 (Not investigated) Then Volume 13342 Folio 248 Now Volume 14309 Folio 41
13.03.1981 (1981 to 1981)	Brian Joseph Flannery (Engineer)	Volume 14309 Folio 41
18.06.1981 (1981 to Date)	# Ulan Coal Mines Limited	Volume 14309 Folio 41 Now 2/613429

Denotes current registered proprietor

Leases: - NIL

Easements: - NIL

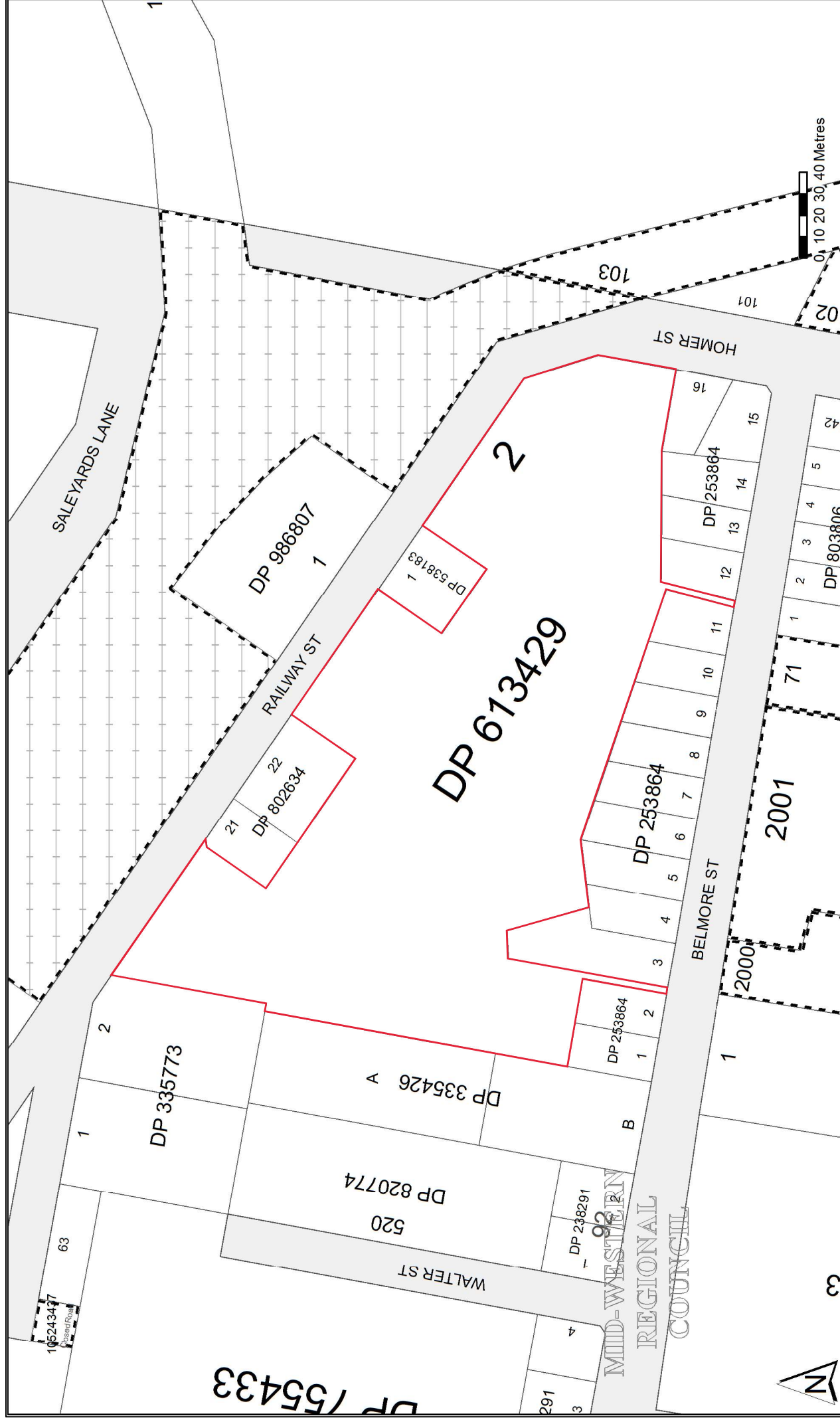
Yours Sincerely,
Taylor Wilson
5th October 2021

Cadastral Records Enquiry Report : Lot 2 DP 613429

Locality : GULGONG
LGA : MID-WESTERN REGIONAL

Parish : GULGONG
County : PHILLIP

Ref : 1 Railway Street, Gulgong





13342248

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900

Vol. **13342** Fol. **248**

Crown Grant Vol. 2892 Fol. 25

Prior Titles Vol.11166 Fols.139
& 140



EDITION ISSUED

14 6 1977

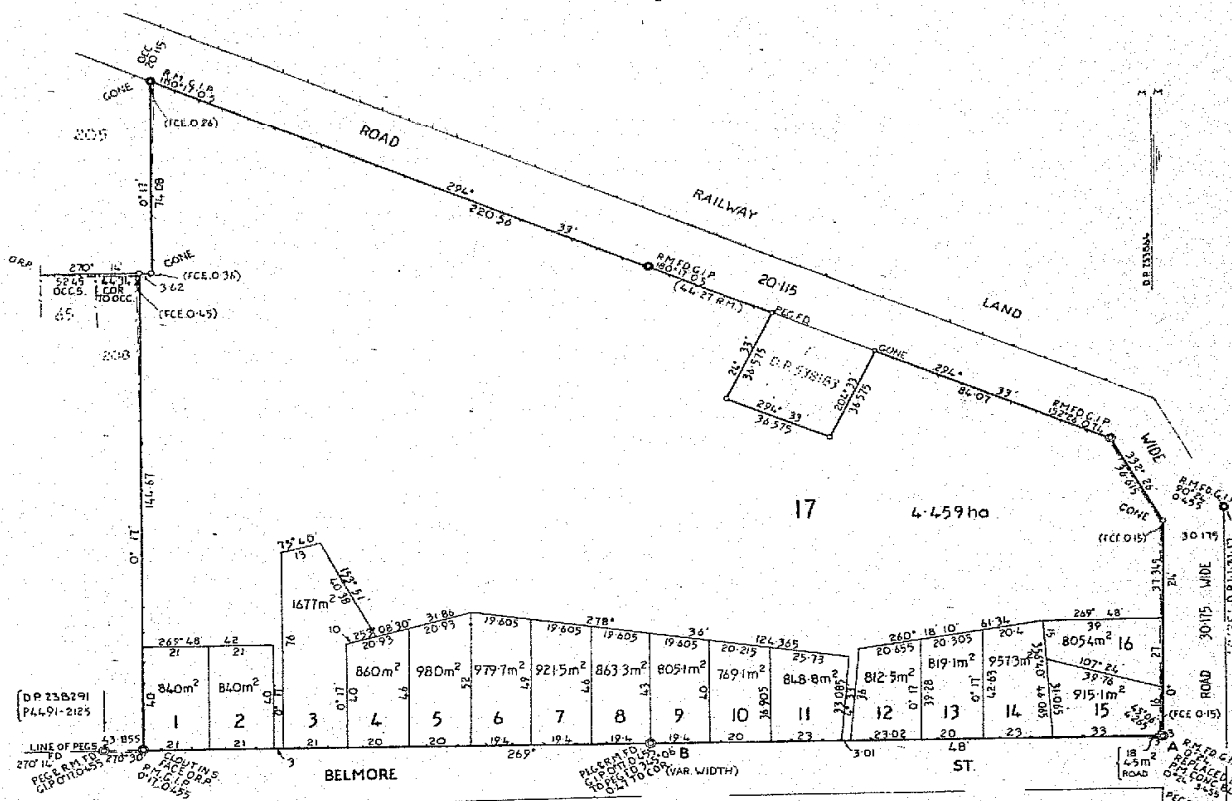
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in **Lot 17 in Deposited Plan 253864** at Gulgong in the Shire of Mudgee Parish of Gulgong and County of Phillip EXCEPTING THEREOUT the land below a depth of 22.86 metres from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

NEIL JOSEPH O'BRIEN of Gulgong, Shire Employee and **NELLIE AGNES O'BRIEN** his wife as joint tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. ~~P176121 Mortgage to Rita Margaret Browning of Mudgee, Married Woman of the part formerly comprised in Certificate of Title Volume 11166 Folio 139. Discharged 0486796~~
3. ~~Q77437 Mortgage to Commonwealth Trading Bank of Australia of the part formerly comprised in Certificate of Title Volume 11166 Folio 140. Discharged R119469~~

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

REGISTERED PROPRIETOR

[illegible]

PARTICULARS

INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
NATURE	NUMBER				
Caveat	Q496677	by Geographics Pty. limited.	27-4-1978	[Signature]	0923068
Mortgage	R119470	to Bank of New South Wales	9-3-1979		
		This deed is cancelled as to whole			
		New Certificates of Title have issued on 11-12-1980			
		for lots in Deposited Plan No. 613429 as follows:			
		Lots 1-2 Vol 14309 Fol 40-41 respectively.			
		[Redacted]			
		REGISTRAR GENERAL			

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

14309041

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900

Crown Grant Vol. 2892 Fol. 25

Prior Title Vol.13342 Fol.248

Vol. 14309 Fol. 41

EDITION ISSUED

11 12 1980

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED

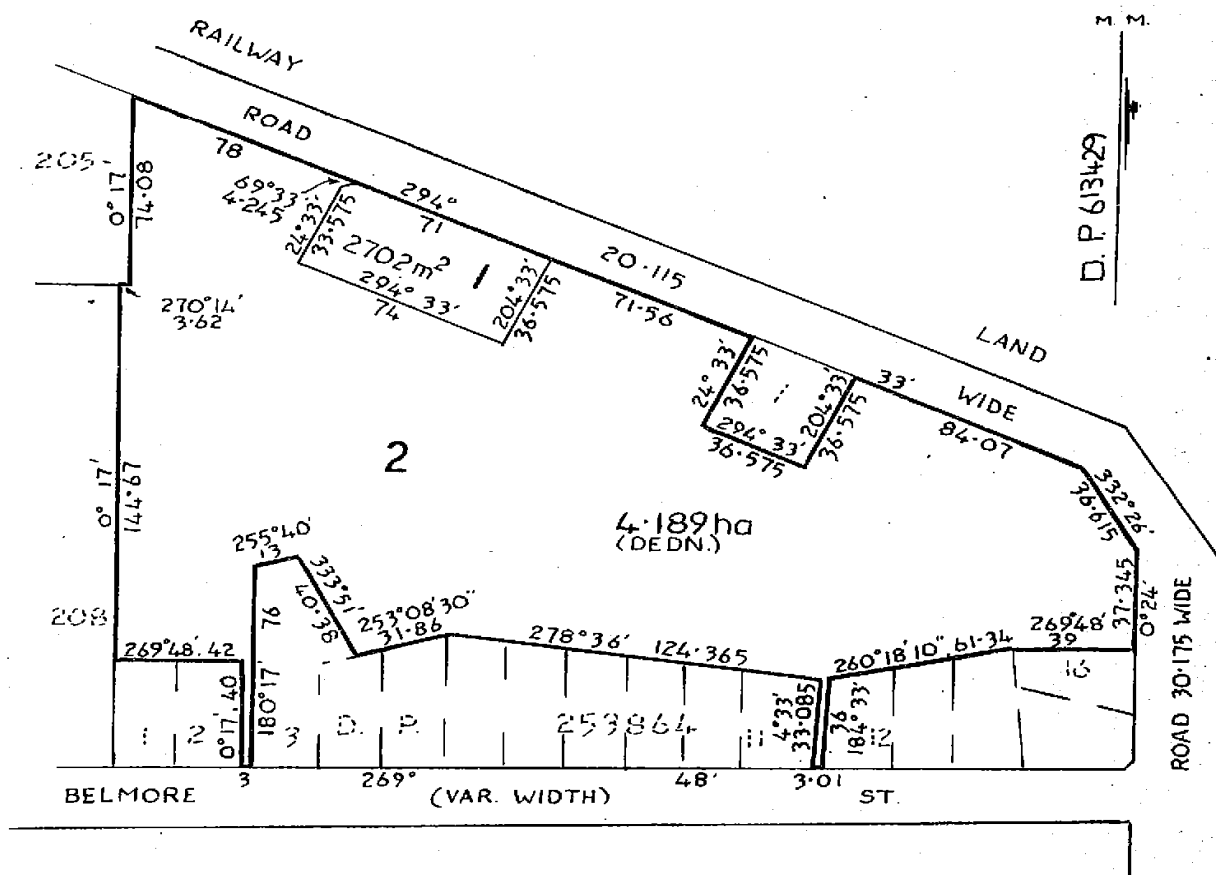
Registrar General.

SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 613429 at Gulgong in the Shire of Mudgee Parish of Gulgong and County of Phillip. EXCEPTING THEREOUT the land below a depth of 22.86 metres from the surface and the minerals reserved by the Crown Grant.

FIRST SCHEDULE

NEIL JOSEPH O'BRIEN of Gulgong, Shire Employee and NELLIE AGNES O'BRIEN his wife, as joint tenants.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. R119470—Mortgage to Bank of New South Wales. Discharged S. 349355

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

REGISTERED PROPRIETOR

~~Brian Joseph Flannery of North Sydney, Engineer~~

Ulan Coal Mines Limited by Transfer S532136. Registered 18-6-1981

五、

SEE AUTO FILE

SECOND SCHEDULE (continued)

INSTRUMENT

NATURE

TUMBER

	T
--	---

PARTICULARS

REGISTERED

Signature of Registrar General

CANCELLATION

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

4/10/2021 7:04PM

FOLIO: 2/613429

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 14309 FOL 41

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
8/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED

*** END OF SEARCH ***



FOLIO: 2/613429

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
4/10/2021	7:03 PM	-	-

VOL 14309 FOL 41 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LOT 2 IN DEPOSITED PLAN 613429

AT GULGONG

LOCAL GOVERNMENT AREA MID-WESTERN REGIONAL

PARISH OF GULGONG COUNTY OF PHILLIP

TITLE DIAGRAM DP613429

FIRST SCHEDULE

ULAN COAL MINES LIMITED

(T S532136)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND
CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 EXCEPTING LAND BELOW A DEPTH FROM THE SURFACE OF 22.86 METRES

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

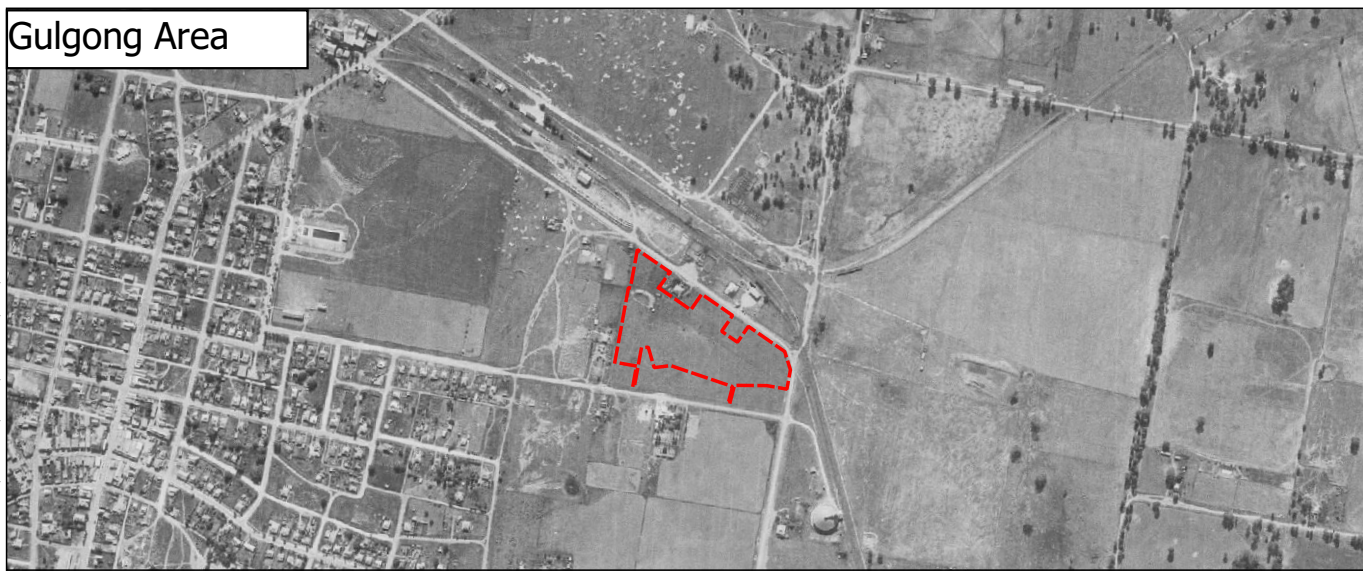


APPENDIX D

HISTORIC AERIAL PHOTOGRAPHY



Gulgong Area



**No. 1 Railway St,
Gulgong**

**Historic Aerial Imagery
1964**



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: NSW SixMap (Imagery); NSW LPI
(Cadastre)

Gulgong Area



**No. 1 Railway St,
Gulgong**

**Historic Aerial Imagery
1982**



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: NSW SixMap (Imagery); NSW LPI
(Cadastre)

Gulgong Area



**No. 1 Railway St,
Gulgong**

**Historic Aerial Imagery
1990**



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: NSW SixMap (Imagery); NSW LPI
(Cadastre)

Gulgong Area



No. 1 Railway St,
Gulgong

Historic Aerial Imagery
1994



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: NSW SixMap (Imagery); NSW LPI
(Cadastre)

Gulgong Area



**No. 1 Railway St,
Gulgong**

**Historic Aerial Imagery
2009**



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: Google Maps / Google Earth

Gulgong Area



No. 1 Railway St,
Gulgong

Historic Aerial Imagery
2020



0 100 200 300 400 m



Site



0 20 40 60 80 100 m



Source: Google Maps / Google Earth



APPENDIX E

ANALYTICAL CERTIFICATES



CERTIFICATE OF ANALYSIS

Work Order : **ES2135060**
Client : **PREMISE NSW Pty Ltd**
Contact : **BRENDAN STUART**
Address : [REDACTED]
Telephone : [REDACTED]
Project : **322017**
Order number : **----**
C-O-C number : **----**
Sampler : **L. WESTCOTT**
Site : **----**
Quote number : **EN/222**
No. of samples received : **21**
No. of samples analysed : **21**

Page : 1 of 24
Laboratory : Environmental Division Sydney
Contact : Customer Services ES
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 29-Sep-2021 08:10
Date Analysis Commenced : 05-Oct-2021
Issue Date : 08-Oct-2021 18:51



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

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

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP202: Particular samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-001	ES2135060-002	ES2135060-003	ES2135060-004	ES2135060-005
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	----	8.6	----	7.0
Moisture Content	----	1.0	%		11.2	8.8	----	7.8	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	----	----	No
Asbestos Type	1332-21-4	-	--		----	----	----	----	-
Synthetic Mineral Fibre	----	0.1	g/kg		----	----	----	----	No
Organic Fibre	----	0.1	g/kg		----	----	----	----	No
Sample weight (dry)	----	0.01	g		----	----	----	----	20.4
APPROVED IDENTIFIER:	----	-	--		----	----	----	----	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	12	----	----	----
Cadmium	7440-43-9	1	mg/kg		----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		----	43	----	----	----
Copper	7440-50-8	5	mg/kg		----	21	----	----	----
Lead	7439-92-1	5	mg/kg		----	26	----	----	----
Nickel	7440-02-0	2	mg/kg		----	17	----	----	----
Zinc	7440-66-6	5	mg/kg		----	17	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-001	ES2135060-002	ES2135060-003	ES2135060-004	ES2135060-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	----	<0.05	----

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2135060-001	ES2135060-002	ES2135060-003	ES2135060-004	ES2135060-005	
				Result	Result	Result	Result	Result	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----	
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----	
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----	
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----	
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----	
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-001	ES2135060-002	ES2135060-003	ES2135060-004	ES2135060-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
2,4-DB	94-82-6	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
Dicamba	1918-00-9	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
Mecoprop	93-65-2	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
MCPA	94-74-6	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
2,4-DP	120-36-5	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
2,4-D	94-75-7	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
Triclopyr	55335-06-3	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04
2,4,5-T	93-76-5	0.02	mg/kg	----	<0.04	----	<0.04	----	<0.04



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_01	GSA_02	GSA_03	GSA_04	GSA_05
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-001	ES2135060-002	ES2135060-003	ES2135060-004	ES2135060-005
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
MCPB	94-81-5	0.02	mg/kg		----	----	<0.04	----	<0.04
Picloram	1918-02-1	0.02	mg/kg		----	----	<0.04	----	<0.04
Clopyralid	1702-17-6	0.02	mg/kg		----	----	<0.04	----	<0.04
Fluroxypyr	69377-81-7	0.02	mg/kg		----	----	<0.04	----	<0.04
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	118	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		107	104	----	93.4	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		94.1	85.9	----	80.7	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	96.2	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	84.8	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		----	51.3	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	98.2	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	85.7	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	91.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	107	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	95.6	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	88.9	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		----	----	69.8	----	65.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-006	ES2135060-007	ES2135060-008	ES2135060-009	ES2135060-010
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	9.6	----	----	----
Moisture Content	----	1.0	%		9.2	----	8.3	8.5	9.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	----	No	----
Asbestos Type	1332-21-4	-	--		----	----	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg		----	----	----	No	----
Organic Fibre	----	0.1	g/kg		----	----	----	No	----
Sample weight (dry)	----	0.01	g		----	----	----	18.8	----
APPROVED IDENTIFIER:	----	-	--		----	----	----	J.SPOONER	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		9	----	----	10	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	<1	----
Chromium	7440-47-3	2	mg/kg		40	----	----	50	----
Copper	7440-50-8	5	mg/kg		17	----	----	17	----
Lead	7439-92-1	5	mg/kg		17	----	----	19	----
Nickel	7440-02-0	2	mg/kg		13	----	----	15	----
Zinc	7440-66-6	5	mg/kg		16	----	----	13	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				GSA_06	GSA_07	GSA_08	GSA_09	GSA_10
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit	ES2135060-006	ES2135060-007	ES2135060-008	ES2135060-009	ES2135060-010
				Result	Result	Result	Result	Result

EP068A: Organochlorine Pesticides (OC) - Continued

cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05

EP068B: Organophosphorus Pesticides (OP)

Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2135060-006	ES2135060-007	ES2135060-008	ES2135060-009	ES2135060-010	
				Result	Result	Result	Result	Result	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	<1	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	<2	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	1.2	----	
EP080/071: Total Petroleum Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-006	ES2135060-007	ES2135060-008	ES2135060-009	ES2135060-010
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	<50	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	<10	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	<50	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	<1	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		----	<0.04	----	----	----
2,4-DB	94-82-6	0.02	mg/kg		----	<0.04	----	----	----
Dicamba	1918-00-9	0.02	mg/kg		----	<0.04	----	----	----
Mecoprop	93-65-2	0.02	mg/kg		----	<0.04	----	----	----
MCPA	94-74-6	0.02	mg/kg		----	<0.04	----	----	----
2,4-DP	120-36-5	0.02	mg/kg		----	<0.04	----	----	----
2,4-D	94-75-7	0.02	mg/kg		----	<0.04	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg		----	<0.04	----	----	----
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg		----	<0.04	----	----	----
2,4,5-T	93-76-5	0.02	mg/kg		----	<0.04	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_06	GSA_07	GSA_08	GSA_09	GSA_10
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-006	ES2135060-007	ES2135060-008	ES2135060-009	ES2135060-010
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
MCPB	94-81-5	0.02	mg/kg		----	<0.04	----	----	----
Picloram	1918-02-1	0.02	mg/kg		----	<0.04	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg		----	<0.04	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg		----	<0.04	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		100	----	----	123	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		90.2	----	102	114	94.4
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		73.0	----	86.8	87.2	78.7
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		102	----	----	100	----
2-Chlorophenol-D4	93951-73-6	0.5	%		96.5	----	----	95.2	----
2,4,6-Tribromophenol	118-79-6	0.5	%		71.3	----	----	77.9	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		102	----	----	100	----
Anthracene-d10	1719-06-8	0.5	%		97.3	----	----	96.8	----
4-Terphenyl-d14	1718-51-0	0.5	%		109	----	----	102	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		103	----	----	105	----
Toluene-D8	2037-26-5	0.2	%		101	----	----	104	----
4-Bromofluorobenzene	460-00-4	0.2	%		93.2	----	----	93.2	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		----	72.3	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_11	GSA_12	GSA_13	GSA_14	GSA_15
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-011	ES2135060-012	ES2135060-013	ES2135060-014	ES2135060-015
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		7.9	----	----	----	----
Moisture Content	----	1.0	%		----	8.7	----	11.3	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	No	----	No
Asbestos Type	1332-21-4	-	--		----	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg		----	----	No	----	No
Organic Fibre	----	0.1	g/kg		----	----	No	----	No
Sample weight (dry)	----	0.01	g		----	----	233	----	242
APPROVED IDENTIFIER:	----	-	--		----	----	J.SPOONER	----	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	12	----	----	----
Cadmium	7440-43-9	1	mg/kg		----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		----	54	----	----	----
Copper	7440-50-8	5	mg/kg		----	21	----	----	----
Lead	7439-92-1	5	mg/kg		----	18	----	----	----
Nickel	7440-02-0	2	mg/kg		----	16	----	----	----
Zinc	7440-66-6	5	mg/kg		----	21	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				GSA_11	GSA_12	GSA_13	GSA_14	GSA_15
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit	ES2135060-011	ES2135060-012	ES2135060-013	ES2135060-014	ES2135060-015
				Result	Result	Result	Result	Result

EP068A: Organochlorine Pesticides (OC) - Continued

cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	----

EP068B: Organophosphorus Pesticides (OP)

Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	----

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_11	GSA_12	GSA_13	GSA_14	GSA_15
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2135060-011	ES2135060-012	ES2135060-013	ES2135060-014	ES2135060-015	
				Result	Result	Result	Result	Result	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_11	GSA_12	GSA_13	GSA_14	GSA_15
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-011	ES2135060-012	ES2135060-013	ES2135060-014	ES2135060-015
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.04	----	----	----	----	----
2,4-DB	94-82-6	0.02	mg/kg	<0.04	----	----	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	<0.04	----	----	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	<0.04	----	----	----	----	----
MCPA	94-74-6	0.02	mg/kg	<0.04	----	----	----	----	----
2,4-DP	120-36-5	0.02	mg/kg	<0.04	----	----	----	----	----
2,4-D	94-75-7	0.02	mg/kg	<0.04	----	----	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.04	----	----	----	----	----
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.04	----	----	----	----	----
2,4,5-T	93-76-5	0.02	mg/kg	<0.04	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_11	GSA_12	GSA_13	GSA_14	GSA_15
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-011	ES2135060-012	ES2135060-013	ES2135060-014	ES2135060-015
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
MCPB	94-81-5	0.02	mg/kg		<0.04	----	----	----	----
Picloram	1918-02-1	0.02	mg/kg		<0.04	----	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg		<0.04	----	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.04	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	104	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	91.5	----	112	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	80.6	----	71.1	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	90.7	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	83.4	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		----	58.0	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	99.2	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	83.0	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	91.7	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		----	103	----	----	----
Toluene-D8	2037-26-5	0.2	%		----	104	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	93.7	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		63.8	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_16	GSA_17	GSA_18	GSA_19	GSA_20
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-016	ES2135060-017	ES2135060-018	ES2135060-019	ES2135060-020
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	7.9	----	9.8	----	9.3	----
Moisture Content	----	1.0	%	----	8.0	----	9.9	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	No	----	----
Asbestos Type	1332-21-4	-	--	----	----	----	-	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	No	----	----
Organic Fibre	----	0.1	g/kg	----	----	----	No	----	----
Sample weight (dry)	----	0.01	g	----	----	----	17.3	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	J.SPOONER	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	19	----	14	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	53	----	54	----	----	----
Copper	7440-50-8	5	mg/kg	22	----	31	----	----	----
Lead	7439-92-1	5	mg/kg	35	----	220	----	----	----
Nickel	7440-02-0	2	mg/kg	22	----	20	----	----	----
Zinc	7440-66-6	5	mg/kg	31	----	287	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				GSA_16	GSA_17	GSA_18	GSA_19	GSA_20
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit	ES2135060-016	ES2135060-017	ES2135060-018	ES2135060-019	ES2135060-020
				Result	Result	Result	Result	Result

EP068A: Organochlorine Pesticides (OC) - Continued

cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

EP068B: Organophosphorus Pesticides (OP)

Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_16	GSA_17	GSA_18	GSA_19	GSA_20
Sampling date / time				27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2135060-016	ES2135060-017	ES2135060-018	ES2135060-019	ES2135060-020	
				Result	Result	Result	Result	Result	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	<1	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	<2	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
Benzo(b+j)fluoranthene	205-99-2	205-82-3	0.5	mg/kg	<0.5	<0.5	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	0.6	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	1.2	----	----	
EP080/071: Total Petroleum Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_16	GSA_17	GSA_18	GSA_19	GSA_20
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-016	ES2135060-017	ES2135060-018	ES2135060-019	ES2135060-020
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
2,4-DB	94-82-6	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Dicamba	1918-00-9	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Mecoprop	93-65-2	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
MCPA	94-74-6	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
2,4-DP	120-36-5	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
2,4-D	94-75-7	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Triclopyr	55335-06-3	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
2,4,5-T	93-76-5	0.02	mg/kg		<0.04	----	<0.04	----	<0.04



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GSA_16	GSA_17	GSA_18	GSA_19	GSA_20
Sampling date / time					27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00	27-Sep-2021 00:00
Compound	CAS Number	LOR	Unit		ES2135060-016	ES2135060-017	ES2135060-018	ES2135060-019	ES2135060-020
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
MCPB	94-81-5	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Picloram	1918-02-1	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Clopyralid	1702-17-6	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.04	----	<0.04	----	<0.04
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		99.9	----	99.9	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		90.8	103	94.3	102	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		68.2	90.1	79.1	79.5	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		85.6	----	81.2	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		83.9	----	81.2	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		59.3	----	61.0	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.4	----	98.9	----	----
Anthracene-d10	1719-06-8	0.5	%		93.5	----	102	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		92.6	----	92.6	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		103	----	98.0	----	----
Toluene-D8	2037-26-5	0.2	%		99.0	----	96.4	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		87.9	----	87.6	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		63.8	----	66.0	----	59.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	GSA_20D	----	----	----	----
Sampling date / time				27-Sep-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2135060-021	-----	-----	-----	-----
Result				----	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	7.1	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.04	----	----	----	----
2,4-DB	94-82-6	0.02	mg/kg	<0.04	----	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	<0.04	----	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	<0.04	----	----	----	----
MCPA	94-74-6	0.02	mg/kg	<0.04	----	----	----	----
2,4-DP	120-36-5	0.02	mg/kg	<0.04	----	----	----	----
2,4-D	94-75-7	0.02	mg/kg	<0.04	----	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.04	----	----	----	----
2,4,5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.04	----	----	----	----
2,4,5-T	93-76-5	0.02	mg/kg	<0.04	----	----	----	----
MCPB	94-81-5	0.02	mg/kg	<0.04	----	----	----	----
Picloram	1918-02-1	0.02	mg/kg	<0.04	----	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.04	----	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.04	----	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2,4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%	56.9	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	GSA_05 - 27-Sep-2021 00:00	A soil sample.
EA200: Description	GSA_09 - 27-Sep-2021 00:00	A soil sample.
EA200: Description	GSA_13 - 27-Sep-2021 00:00	A soil sample.
EA200: Description	GSA_15 - 27-Sep-2021 00:00	A soil sample.
EA200: Description	GSA_19 - 27-Sep-2021 00:00	A soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2,4-Dichlorophenyl Acetic Acid	19719-28-9	45	139

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils



APPENDIX F

ANALYTICAL LABORATORY QA/QC & CHAIN OF CUSTODY DOCUMENTS



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2135060	Page	: 1 of 7
Client	: PREMISE NSW Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: BRENDAN STUART	Telephone	: [REDACTED]
Project	: 322017	Date Samples Received	: 29-Sep-2021
Site	: ----	Issue Date	: 08-Oct-2021
Sampler	: L. WESTCOTT	No. of samples received	: 21
Order number	: ----	No. of samples analysed	: 21

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

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

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

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

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

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

Evaluation: ✖ = Holding time breach : ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)		27-Sep-2021	----	----	----	06-Oct-2021	11-Oct-2021	✓
GSA_01,	GSA_02,							
GSA_03,	GSA_04,							
GSA_05,	GSA_06,							
GSA_07,	GSA_08,							
GSA_09,	GSA_10,							
GSA_11,	GSA_12,							
GSA_14,	GSA_16,							
GSA_17,	GSA_18,							
GSA_19,	GSA_20,							
GSA_20D								
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Subsampled by ALS (EA200)		27-Sep-2021	----	----	----	05-Oct-2021	26-Mar-2022	✓
GSA_05,	GSA_09,							
GSA_19								
Soil Glass Jar - Unpreserved (EA200)		27-Sep-2021	----	----	----	05-Oct-2021	26-Mar-2022	✓
GSA_13,	GSA_15							
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)		27-Sep-2021	07-Oct-2021	26-Mar-2022	✓	08-Oct-2021	26-Mar-2022	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		27-Sep-2021	07-Oct-2021	25-Oct-2021	✓	08-Oct-2021	25-Oct-2021	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	07-Oct-2021	14-Nov-2021	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	07-Oct-2021	14-Nov-2021	✓
GSA_01,	GSA_02,							
GSA_04,	GSA_06,							
GSA_08,	GSA_09,							
GSA_10,	GSA_12,							
GSA_14,	GSA_16,							
GSA_17,	GSA_18,							
GSA_19								
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	07-Oct-2021	14-Nov-2021	✓
GSA_01,	GSA_02,							
GSA_04,	GSA_06,							
GSA_08,	GSA_09,							
GSA_10,	GSA_12,							
GSA_14,	GSA_16,							
GSA_17,	GSA_18,							
GSA_19								
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	06-Oct-2021	14-Nov-2021	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	06-Oct-2021	14-Nov-2021	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✓	06-Oct-2021	11-Oct-2021	✓
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✔	06-Oct-2021	11-Oct-2021	✔
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✔	06-Oct-2021	11-Oct-2021	✔
GSA_02,	GSA_06,							
GSA_09,	GSA_12,							
GSA_16,	GSA_18							
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
Soil Glass Jar - Unpreserved (EP202)		27-Sep-2021	05-Oct-2021	11-Oct-2021	✔	05-Oct-2021	14-Nov-2021	✔
GSA_03,	GSA_05,							
GSA_07,	GSA_11,							
GSA_16,	GSA_18,							
GSA_20,	GSA_20D							



Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	12	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	8.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).

Page : 7 of 7
Work Order : ES2135060
Client : PREMISE NSW Pty Ltd
Project : 322017



Preparation Methods	Method	Matrix	Method Descriptions
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

[illegible]

ALS Laboratory:
please tick →

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Ph: 02 4968 9433 E: samples.newcastle@global.com

QUICKHFA 413 Geary Place North Norrara NSW 2541
Ph: 02 4273 2062 E: now@global.com

PERTH: 10 Hind Mangrove WA 6050
Ph: 08 9209 7505 E: samples.perth@global.com

OS/DONLY 2 11/28 Woodmont Road Sydney 6th NSW 2160
Ph 02 8344 8556 F samples sydney@discloud.com
G'DONK'S STYLE 14-15 Denning Court Sefton QLD 4816
P- 07 4796 0606 E jwinesy@environment@sefton.qld.gov.au
D'YOLONGONG 94 Kenny Street Wollongong NSW 2500
Ph 02 4225 3125 E portmerrab@sefton.qld.gov.au

CLIENT: Premise Australia

TURNAROUND REQUIREMENTS
(Standard TAT may be longer for some tests)
(Ultra Trace Organics)

☒ Standard TAT (list due date):

☐ Non-Standard or urgent TAT (list due date):

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?

PROJECT: 322037

ALIS QUOTE NO.

EN/222/18

COC SEQUENCE NUMBER (circle)

Free use / frozen use breaks present upon receipt?

ORDER NUMBER:

PROJECT MANAGER: B. Stuart

CONTACT PH:

OF: 1 ② 3 4 5 6

Other comment: _____

SAMPLER: I. Westcott

SAMPLER MOBILE: 0418 607 830

RECEIVED BY:

INQUIRED BY:

COC emailed to ALS? (YES / NO)

EDD FORMAT (or default)

Subcor / Form

h / Split into

Email Reports to brandon.stuart@premise.com.au

Journal Pre-proof

DATE/TIME / Analysis

Email Invoice to PM

100

Organised By

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL.

relinquished by / Date: ~~5.9.13~~ 5.15.16

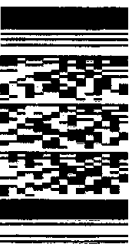
19

ALS USE		SAMPLE DETAILS MATRIX: SOLID (S) / WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITE(S) (OS Suite Codes must be added to all report suite prices) Where Metals are required, a 600mL Total (unfiltered bottle required) or Dissolved (final filtered bottle required) -				Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	OC / OP S-12	Asbestos (sub-sample) EA200	Phenoxy Acid Herbicides (EP202)	S-19 Suite	Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.	
1	GSA_01	27/09/2021	S	JAR	1	*					
2	GSA_02	27/09/2021	S	JAR	1				*		
3	GSA_03	27/09/2021	S	JAR	1			*			
4	GSA_04	27/09/2021	S	JAR	1	*					
5	GSA_05	27/09/2021	S	JAR	1		*	*			
6	GSA_06	27/09/2021	S	JAR	1				*		
7	GSA_07	27/09/2021	S	JAR	1			*			
8	GSA_08	27/09/2021	S	JAR	1	*					
9	GSA_09	27/09/2021	S	JAR	1		*		*		
10	GSA_10	27/09/2021	S	JAR	1	*					
11	GSA_11	27/09/2021	S	JAR	1			*			
12	GSA_12	27/09/2021	S	JAR	1				*		
TOTAL											

Attach By PO / Internal Sheet

Environmental Division
Sydney
Work Order Reference
ES2135060

Telephone : + 61-2-8784 8556



**Environmental Division
Sydney
Work Order Reference
ES2135060**



Telephone : + 61-2-8784 8553

Water Container Codes: P = Unpreserved Plastic; NP = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Preserved Plastic; S = Sodium Hydroxide Unpreserved Plastic; V = VOA Via HCl Preserved; VO = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; NV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; AG = Amber Glass Unpreserved AP = Air-tight Unpreserved Plastic; VOA = VOA Via HCl Preserved; E = EDTA Preserved Bottles; S1 = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; S1 = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

