Midcoast Council

Stage 1 & 2 Site Contamination Assessment

Proposed Visitor Information Centre

17 Denison Street, Gloucester

Report No. RGS02423.1-AB

8 February 2022

REGIONAL GEOTECHNICAL SOLUTIONS

REGIONAL GEOTECHNICAL SOLUTIONS

Manning-Great Lakes
Port Macquarie
Coffs Harbour

RGS02423.1-AB

8 February 2022

Midcoast Council
PO Box 482
TAREE NSW 2430

Attention: Hugh Lyall

Dear Hugh

RE: Proposed Visitor Information Centre – 17 Denison Street, Gloucester
Stage 1 & 2 Site Contamination Assessment

As requested, Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a combined Stage 1 and Stage 2 site contamination assessment for a proposed visitor information centre at 17 Denison Street, Gloucester, NSW.

The assessment found that remediation works will be necessary to enable the site to be made suitable for the proposed development from a contamination perspective. Further assessment will be necessary to determine the extent of remediation works required.

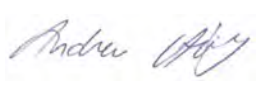
The work presented herein was reviewed by Dr David Tully CEnvP SC. A copy of Dr Tully's letter pertaining to the review is appended to the report.

If you have any questions regarding this project, or require any additional consultations, please contact the undersigned.

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

Prepared by



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1 INTRODUCTION & BACKGROUND

Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a combined Stage 1 and Stage 2 site contamination assessment for a proposed visitor information centre (VIC) at 17 Denison Street, Gloucester, NSW. The site is identified as Lot 1 DP571352 and covers approximately 3,500m^2. The location is shown on Figure 1.

It is understood Midcoast Council (Council) is considering acquiring the site from Crown Lands to potentially construct a new and combined interactive VIC, in collaboration with National Parks and Wildlife Service.

The site is a former petrol station and, as a result, Council understands that the land may be contaminated. However, little other information with regard to the former service station and/or its current contamination status, is known.

It is not known when the service station was decommissioned and how many Underground Fuel Storage Tanks (USTs) were present, or if they have been removed or decommissioned in-situ. It is known that the former bowers have been removed, however, it is not known when. There are no existing contamination assessment reports available.

Council requires a Stage 1 & 2 site contamination assessment to evaluate the site's suitability for the proposed VIC from a contamination perspective prior to it acquiring the property.

The work was commissioned by Hugh Lyall of Council in accordance with RGS proposal number RGS02423.1-AA, dated 9 November 2021.

1.1 Objectives

The objectives of the DSI were to:

- Characterise the nature and extent of soil and groundwater contamination present on the site (if any);
- Assess the suitability of the site for ongoing commercial/industrial land use; and
- Provide recommendations for on-site management, the need and options for remediation and any further investigation and testing that is required.

1.2 Scope of Works

In accordance with the relevant sections of the *National Environmental Protection (Assessment of Site Contamination) Measure 1999 (Amended 2013*), the assessment involved the following process:

- A brief study of site history, with the aim of identifying past activities on or near the site that might have the potential to cause contamination;
- Review of selected available recent and historical aerial photography for the last 50 years;
- A search of NSW EPA records, or contaminated land notifications on the site;
- Review of government records of groundwater bores in the area;
- A SafeWork NSW Hazardous Chemical on Premises Search;

- Walkover to assess the layout of the tank farm and fuel infrastructure, visible surface conditions and identify evidence of contamination, or past activities that may cause contamination across the site;
- Discussion with adjoining property owner/staff to obtain information regarding site history and past site activities;
- Drilling of eight boreholes across the site using a truck-mounted drill rig to depths of between 1.6m and 3.5m below ground surface to allow for the collection of soil samples for subsequent laboratory analysis;
- Collection of six surface soil samples using hand tools;
- Installation of groundwater monitoring wells into three of the boreholes outlined above for the collection of groundwater samples for subsequent laboratory analysis. Two of the wells (MW1 and MW2) were installed within the tank farm area following coring through the existing concrete slab pavement;
- Head space screening of soil samples for volatile hydrocarbon vapours using a Photoionization Detector (PID);
- Using the above information, characterise the site into Areas of Environmental Concern, in which the potential for contamination has been identified, and nominate Chemicals of Concern that might be associated with those activities;
- Undertake targeted sampling and analysis at the selected Areas of Concern to allow for analysis of the presence of contamination;
- Analysis of soil and groundwater samples for a broad suite of potential contaminants including those associated with hydrocarbon storage; and
- Evaluate the results against industry accepted criteria for the ongoing commercial/industrial landuse.

1.3 Site Identification

General site information is provided below in Table 1. The site location is shown in Figure 1.

Table 1: Summary of Site Details

Site Details	Description
Site Location:	17 Denison Street, Gloucester, NSW
Approximate Site Area:	3,500m^2
Title Identification Details:	Lot 1 DP 571352
Current Ownership:	The State of NSW

Current Landuse:	Unoccupied / vacant building (former service station, machinery shop and tyre service centre)
Proposed Landuse:	Visitor Information Centre
Adjoining Site Uses:	• Denison Street to the north; • Open space, car park and Billabong Lane to the east; • Existing industrial premises to the south; and • Open space and creek (tributary of Gloucester River) to the west.
Government Area:	Midcoast Council

2 SITE DESCRIPTION

2.1 Topography and Drainage

The site is located within a region of moderately to steeply undulating terrain and is situated on a typically flat parcel of land to the west of the Gloucester CBD.

Surface elevations are inferred to vary between RL92m and RL94m AHD. Drainage is anticipated to be via overland flow into the street drainage system and creek located to the west of the site.

Vegetation is limited to garden beds, grass and weeds around the existing building.

A small fill stockpile is located in the western part of the site.

The existing building is a large industrial shed type building with a shop front facing Denison Street. It is of brick and aluminium sheeting construction. The shop part was used as a machinery shop and a service station prior to that. There is an awning extending out from the shop front over which the former fuel bowsers were located; the concrete plinths which the bowsers were located on remain.

The area facing Denison Street comprises pavement and car parking areas and is where the USTs are present. The UST fill points are still present on the ground surface along with the fuel breathe pipes which are located at the north-east corner of the building.

The inferred layout of the former fuel services is shown on Figure 2.

The remaining areas not covered by pavement or the building comprise hardstand areas (which are currently used for truck parking) and storage of old industrial equipment and scrap.

The western part of the building was previously used as a tyre service centre.

2.2 Geology

Reference to the Minview website indicates that the site is underlain by Wards River Conglomerate rocks comprising polymictic conglomerate, fine-grained siliceous volcanics and lithic sandstone.

The materials encountered during the investigation are summarised in Table 2 and Table 3. Further details are presented on the attached engineering logs (Appendix A).

Table 2: Summary of Geotechnical Units

Unit	Material	Material Description
UNIT 1	Concrete Pavement or Pavement Seal	Concrete of bitumen pavement
UNIT 2	Fill (hardstand)	Sandy Gravelly CLAY, low to medium plasticity, brown / orange / dark brown, gravel, coarse grained, sand, fine to medium grained
UNIT 3	Fill	Sandy Gravelly CLAY, low to medium plasticity, brown / orange, gravel, coarse grained, sand, fine to medium grained, some roots
UNIT 4	Alluvial Soil	Silty or Sandy CLAY, low to medium plasticity, grey / dark grey / brown / pale brown / orange, sand, fine to medium grained, trace gravel, coarse grained, gravel content increasing with depth from about 2m below ground surface

Table 3: Summary of Subsurface Profile

Borehole	Depth of Material Layer (m)			
	UNIT 1 Pavement	UNIT 2 Fill (hardstand)	UNIT 3 Fill	UNIT 4 Alluvial Soil
BH1	0.0 – 0.2	--	--	0.2 – ≥3.5
BH2	0.0 – 0.2	--	--	0.2 - ≥3.5
BH3	--	--	0.0 – 0.6	0.6 - ≥3.5
BH4	--	0.0 – 0.25	--	0.25 - ≥1.6
BH5	--	--	--	0.0 - ≥1.6
BH6	--	--	0.0 – 0.25	0.25 - ≥1.6
BH7	--	0.0 – 0.45	--	0.45 - ≥2.2
BH8	0.0 – 0.05	--	0.05 – 0.3	0.3 - ≥1.6

Groundwater was encountered within boreholes BH1, BH2 and BH3 at depths of 1.6m, 2.2m and 1.4m below ground surface during the limited time they remained open on the day of the field investigations. Groundwater was not encountered within the remaining boreholes.

It should be noted that fluctuations in groundwater levels can occur as a result of seasonal variations, temperature, rainfall, and other similar factors, the influence of which may not have been apparent at the time of the assessment.

2.3 Hydrogeology

A groundwater bore search on the NSW Water Information website, http://waterinfo.nsw.gov.au/gw/ indicates that there is a licenced groundwater bore (with available work summary) located approximately 90m to the west of the site as shown below:

Plate 2: *Approximate site boundary outlined in green. Nearest off-site licensed groundwater bore is located approximately 900m to the west of the site.*

Groundwater bore GW024725 was drilled to a depth of 5.0m on 1 January 1980, is licenced for groundwater explorations and its licence status is unknown. The driller's log indicates that the soil profile comprised the following:

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material
0.00	3.50	3.50	Silt	Silt
3.50	5.00	1.50	Sand Cobbles	Sand
5.00	5.01	0.01	Bedrock	Bedrock

No other information is included on the bore work summary.

The groundwater table was encountered at depths of between 1.6m and 2.2m below ground surface during the site investigation. Overall groundwater flow would be expected to be towards the west and north-west, towards the unnamed creek (tributary of the Gloucester River which was flowing at the time of the field work) and the Gloucester River respectively. Therefore, the nearest off-site surface water ecological receptor would be the aquatic ecosystems of the creek (which is located about 40m to the west of the site) and the Gloucester River. The creek had heavy water flow at the time of the drilling on 9 December 2021 but was dry on subsequent site visits on 15

December 2021, and 13 January 2022 respectively. As such, the creek is considered to be ephemeral in nature.

Adopted groundwater investigation levels are discussed in Section 4.2.

2.4 Site History

2.4.1 Historical Aerial Photography

Available aerial photographs of the site were reviewed to assist in identifying past land uses that may contribute to site contamination. The results of the review are summarised in Table 4.

Table 4 - Aerial Photograph Summary

Year	Site	Surrounding Land
1967	The existing building and adjoining awning facing Denison Street is visible in the photograph. The remainder of the site appears to be vacant.	Denison Street appears to be unsealed. The CBD of Gloucester is visible to the east with vacant land to the north and south.
1982	The building has been extended from the south-west corner and the remainder of the site appears to have been paved and/or used for storage of unknown objects. There is an access track on the western side of the building extending from Denison Street to the adjoining property to the south.	Land immediately to the south appears to be occupied by industrial premises. The Gloucester CBD appears to have expanded to the east of the site.
1992	No visible changes from the previous photograph.	No visible changes from the previous photograph.
2002 (Google Earth)	The existing building appears to have been extended to the south. No other changes are visible from the previous photograph.	No visible changes from the previous photograph.
2013 (Google Earth)	There appears to be industrial equipment / scrap waste materials stored in the south-western part of the site at the rear of the existing building.	No visible changes from the previous photograph.
2020 (Google Earth)	No visible changes from the previous photograph.	No visible changes from the previous photograph.

2.4.2 Site Observations

Observations from a contamination perspective made during the site visits are summarised below:

- The majority of the site is occupied by the existing building and/or pavement with the remaining areas being occupied by hardstand;
- The existing building is irregular in shape and is of brick and metal sheeting construction, and has a shop front facing with adjoining awning facing Denison Street;
- The area fronting Denison Street has concrete pavement;
- There was evidence of existing USTs with fill points labelled with "ULP" and "diesel" on the concrete pavement in front of the building as well two breathe pipes near the north-east corner of the building and concrete plinths beneath the awning where what appeared to be the locations of former fuel bowsers;
- The western part of the building was a former tyre service centre as the old signs indicating as such were present;
- A fill stockpile was present in the western part of the site;
- Old industrial equipment and waste materials including metal objects, wooden pallets, tyres, drums of lubricant (empty) and a shipping container were stored on the ground surface in the south-west part of the site around the former tyre service area;
- No obvious Asbestos Containing Materials (ACM) were noted, however a full ACM assessment was not completed as part of this scope of works.

A selection of images of the site is presented below.

Looking west showing the front of the existing building which was a former machinery shop and service station. Two UST fill point are visible on the ground surface and two breathe pipes are shown on the outside of the building on the left (bound by red outlines).

Looking east showing the front of the existing building. Two UST fill point are visible on the ground surface and what appears to be the location of the old fuel lines connecting the USTs to the bowsers (bound by red outlines).

	
Looking south in the western part of the site showing the hardstand area and former tyre service centre part of the building in the background.	*Looking east in the south-west part of the site showing stored industrial equipment, scrap materials and shipping container.*
	
Looking north in western part of the site showing the fill stockpile and access track which adjoins Denison Street and the adjoining property to the south.	*Old tyres on the ground surface on the western side of the existing building.*

2.4.3 NSW EPA Records

A check with the NSW Office of Environment and Heritage website (www.environment.nsw.gov.au) revealed that no notices have been issued on the site under the Contaminated Land Management Act (1997).

2.4.4 Land Title Search

A list of past registered proprietors and lessors of the site was obtained from the Land Titles Office. A summary of the title details is included in Appendix C.

The title history search revealed the following:

1909 - 1931	Harry Joseph Green, farmer
1931 - 1950	Marion Josephine Green, widow Harry Joseph Green, estate
1950 - 1951	Samuel James Ross Pryor, clerk Vera Emily Pryor, wife
1951 - 1955	Sidney Garland, farmer Mary Garland, wife
1955 - 1956	Mary Garland, widow
1956 - 1968	Gloucester Motors Pty Limited (in liquidation)
1968 - 1968	Ernest William Mussared, company director Alice May Mussared, wife
1968 - 1971	*Unknown – no information available*
1971 - 1974	The Commercial Banking Company of Sydney Limited (Mortgagors Ernest William Mussared, company director and Alice May Mussared, wife)
1974 - 1975	Ernest William Mussared, company director Alice May Mussared, wife
1975 - 2005	Gloucester Machinery Co. Pty Limited
2005 - 2019	Stephen John Griffin Nerida Joy Griffin
2019 - 2019	Alan Richard Nicholls (Trustee of the bankrupt estate of Stephen Joh Griffin & Nerida Joy Griffin)
2019 – to date	The State of New South Wales

2.4.5 Anecdotal Information

A worker from the adjoining industrial property to the south provided the following information:

- The premises ceased functioning as an operating as a service station about 10 to 15 years ago (circa 2001 to 2006); and

- After the service station closure the premises operated as a machinery shop which closed about 5 years ago (circa 2016).

2.4.6 SafeWork NSW Hazardous Chemical on Premises Search

A search of the SafeWork NSW Hazardous Chemicals Stored on Premises database revealed the following:

- The earliest licence indicates that 2,000 gallons of mineral spirit were stored on the site with the licence dated 2 April 1958;
- The most recent licence dated 6 April 2001 (with an expiry date of 9 April 2002), was for four UST's which were shown on a plan as being present within a tank farm area located beneath the concrete pavement in front of the existing building; and
- The tank farm comprised two 4,500L unleaded petrol USTs in the eastern part, one 12,000L diesel UST in the central part, and one 27,000L unleaded petrol UST in the western part, of the tank farm.

The search documents are presented in Appendix C.

2.4.7 Site History Summary

Based on available data the chronological development of the site is summarised below:

- Historically, the site has been used for commercial / industrial purposes since at least the late 1950's;
- Aerial photographs indicate that the existing building was present prior to 1967 with an extension to the south-west corner between 1967 and 1982; and a subsequent extension to south toward the property boundary between 1992 and 2002;
- The search of the hazardous chemicals on premises database indicates that hydrocarbon fuels have been stored on the site since at least 1958 with the last known licence expiry being in 2002;
- Anecdotal and land title information suggests that the site has previously been used as a service station, machinery shop and a tyre service centre;
- Site observations indicate that the USTs are still in-situ in the layout as shown on site plans included in the search of the hazardous chemicals on premises database;
- Based on the above, it is likely that underground hydrocarbon fuel has been undertaken for over 60 years; and
- The site appears to have remained largely unchanged from its current state since 2002.

3 Field and Laboratory Investigations

3.1 Sampling Plan

The NSW EPA (1995) Sampling Design Guidelines recommend a minimum of ten sampling locations to characterise a site of 3,500m^2. Sampling locations were selected using a judgemental approach

based on the identification of Areas of Environmental Concern. Fourteen sampling points were included for this investigation thereby exceeding the minimum number required.

Twenty-three soil samples were obtained from the boreholes (BH1 to BH8) and surface locations (SS1 to SS6), and three groundwater samples were obtained from the groundwater monitoring wells (MW1 to MW3).

The sampling locations are shown on Figure 3. Groundwater field sampling sheets are presented in Appendix A.

3.2 Field Work

Field work for the assessment was undertaken by an Environmental Engineer from RGS on 9 and 15 December 2021 and 13 January 2022, and included:

- Site walkover to assess visible surface conditions and identify the UST farm layout and evidence of contamination, or past activities that may cause contamination;
- Drilling of eight boreholes (BH1 to BH8) using a truck mounted drilling rig to depths of between 1.6m and 3.5m below ground surface;
- Installation of groundwater monitoring wells into three of the boreholes outlined above for the collection of groundwater samples for subsequent laboratory analysis. Two of the wells (MW1 and MW2) were installed within the UST farm area following coring through the existing concrete slab pavement;
- Collection of soil samples from the boreholes and head space screening for volatile hydrocarbon vapours using a Photoionization Detector (PID); and
- Collection of groundwater samples from the monitoring wells.

The locations of the sampling points and groundwater monitoring wells are shown on Figure 3. They were obtained on site and located by measurement relative to existing site features.

Soil samples were taken from fill and natural soils using disposable gloves and hand tools which were decontaminated between sampling points using Decon90 detergent and deionised water. The samples were collected in acid-rinsed 250mL glass jars and placed in an ice-chilled cooler box.

Purging and sampling of the groundwater wells was undertaken using a disposable polyethylene bailer to sample each well to limit the potential for cross contamination. New dedicated disposable nitrile gloves were used at each sample location.

In-situ field groundwater quality parameters were measured using a hand-held multiparameter water quality meter (model HAN-9829-4M) including dissolved oxygen (DO), electrical conductivity (EC), redox potential (Eh), pH and temperature. The calibration certificate (Worksheet No. 599917) for the water quality meter is attached in Appendix D.

Qualitative observations of groundwater quality were also made (including water colour, turbidity, odour and sheen).

The groundwater quality parameters and qualitative observations are shown on the groundwater sampling field sheets in Appendix A.

Groundwater samples were preserved as per the National Association of Testing Authority (NATA) accredited laboratory information and stored in a cooler immediately whilst on site and in transit to the laboratory.

Quality control procedures included collecting one intra-laboratory duplicate sample from monitoring well MW1. One equipment rinsate sample was collected on the day of the sampling (15 December 2021) and one trip blank and trip spike were dispatched in the cooler with the samples to the laboratory. The quality control procedures were undertaken to aid in the assessment of data quality.

3.3 Laboratory Analysis

3.3.1 Soil

Samples were transported under chain-of-custody conditions to ALS Laboratory Group, a NATA accredited specialist chemical testing laboratory, to be analysed for the following suite of contaminants;

- Polycyclic Aromatic Hydrocarbons (PAH);
- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Ethyl-benzene, Xylenes (BTEX);
- Organochlorine and Organophosphorus Pesticides (OC/OPs);
- Heavy metals (arsenic, cadmium, chromium, cobalt, copper, lead, mercury, and zinc);
- Polychlorinated Biphenyls (PCB); and
- Presence of asbestos.

The results are presented in Appendix B.

3.3.2 Groundwater

Samples were transported under chain-of-custody conditions to ALS Laboratory Group, a NATA accredited specialist chemical testing laboratory, to be analysed for the following suite of contaminants;

- Polycyclic Aromatic Hydrocarbons (PAH);
- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Ethyl-benzene, Xylenes (BTEX); and
- Heavy metals (arsenic, cadmium, chromium, cobalt, copper, lead, mercury, and zinc);

The results are presented in Appendix B.

3.4 Data Quality Objectives

The Data Quality Objectives (DQOs) are presented in Table 5.

Table 5 – Data Quality Objectives

DQO	Details of Process
State the Problem	A site contamination assessment is required to assess the suitability of the site for commercial/industrial land use from a contamination perspective.
Identify the Decision	The principal study questions that are: • What is the nature and extent of soil and groundwater contamination on the subject land (if any)?; and • Is the land suitable for the proposed visitor information centre from a contamination viewpoint?
Identify Inputs to the Decision	The primary inputs are: • Site history study; • Site walkover assessment; • Chemical analysis and asbestos screening of selected soil and groundwater samples; • PID screening of soil samples; and • Results summary.
Define the Boundary of the Assessment	• The spatial boundaries are limited to the property boundaries of the subject site as shown on Figure 1; and • The investigation and screening levels for a Commercial / Industrial D land use scenario.
Develop a Decision Rule	The decision rules for the investigation are: • If concentrations of contaminants in soil exceed the adopted investigation and screening levels for a Commercial / Industrial D land use scenario, then further assessment may be required; • If concentrations of contaminants in groundwater exceed the adopted investigation and screening levels for vapour intrusion and the protection of 95% of species for freshwater aquatic ecosystems, then further assessment may be required. Decision criteria for QA/QC measures are defined in Section 4.3. A decision on the acceptance of analytical data will be made on the basis of the data quality indicators (DQIs) in the context of precision, accuracy, representativeness, completeness and comparability (PARCC) parameters as follows: • **Precision:** NATA registered laboratories were used following NATA endorsed methods. An appropriate number of intra-laboratory samples were collected and analysed (following ASC NEPM guidance), the results of which are considered to be satisfactory;

	• **Accuracy:** The laboratory limit or reporting (LOR) was appropriate for the screening criteria utilised. NATA registered laboratories were used following NATA endorsed methods including appropriate method blanks, laboratory control samples, laboratory spikes and duplicates the results of which are considered to be satisfactory. • **Representativeness –** The samples were received by the laboratories in good condition. The data obtained is considered to be representative of the soils present on site; • **Completeness –** Experienced field staff were utilised to undertake the sampling and keep appropriate documentation. Samples were in proper custody between the field and reaching the laboratory. The laboratories performed the tests requested. The data obtained from the field investigations is considered to be relevant and usable; and • **Comparability –** Sample holding times were met and samples were properly and adequately preserved. Field sampling and handling procedures were followed. The data collected is considered to be comparable.
Specify Acceptable Limits on Decision Errors	• Acceptable limits for QA/QC measures are defined in Section 4.1; • Acceptable investigation and screening levels for soil are those for a Commercial / Industrial D land use scenario; • Acceptable investigation and screening levels for groundwater are those for the protection of 95% of species for freshwater ecosystems; and • Specific limits are in accordance with the appropriate NSW EPA guidelines including indicators of data quality and standard procedures for field sampling and handling.
Optimise the Design for Obtaining Data	Based on the above steps of the DQO process. The design for obtaining the required data (i.e proposed field and laboratory investigations) is presented in Section 3.1.

4 Guidelines and Assessment Criteria

4.1 Soil

Assessment as outlined in NSW EPA *Guidelines for Consultants Reporting on Contaminated Land (2020).*

To evaluate results, and for guidance on assessment requirements, the assessment adopted the guidelines provided in the *National Environment Protection (Assessment of Site Contamination) Measure (NEPM 2013).* The NEPM document provides a range of guidelines for assessment of contaminants for various land use scenarios. It is understood that the future land use for the site is industrial. As such, comparison with the NEPM guideline Health Investigation Levels (HIL) for Commercial / Industrial D land use is considered appropriate for the site. In accordance with the NEPM guideline the following criteria were adopted for this assessment:

- Health Investigation Levels (HILs) for commercial/industrial 'D' land use (HIL-D) were used to assess the potential human health impact of heavy metals and polycyclic aromatic hydrocarbons (PAHs);
- Health Screening Levels (HSLs) for coarse textured (sand) or fine textured (silt and clay) soils on a commercial/industrial site were adopted as appropriate for the soils encountered to assess the potential human health impact of petroleum hydrocarbons and benzene, toluene, ethylbenzene and xylene (BTEX compounds); and
- Ecological Screening Levels (ESLs) for coarse textured (sand) soils or fine textured (silt and clay) soils on a commercial/industrial land use site were adopted as appropriate for the soils encountered, to assess the potential ecological / environmental impact of petroleum hydrocarbons and BTEX compounds.

In accordance with NEPM 2013, exceedance of the respective criteria does not necessarily deem that remediation or clean-up is required but is a trigger for further assessment of the extent of contamination and associated risks. The adopted criteria are presented in results summary tables in Appendix B.

4.2 Groundwater

The NEPM 2013 provides a series of Groundwater Investigation Levels (GILs) for the protection of drinking water or aquatic ecosystems, as appropriate based on down-gradient recipients of groundwater emanating from the site. For assessing groundwater quality therefore, it is first necessary to assess the beneficial uses or sensitive receptors of groundwater down-gradient of the site being assessed**.**

As discussed in Section 2.4, the most sensitive receptors in the likely direction of groundwater flow are the aquatic ecosystems of the unnamed Creek and subsequently, the Gloucester River located to the west and north-west of the site respectively. It is therefore reasonable to adopt GIL's aimed at protecting the aquatic ecosystem. On this basis, the results of groundwater sampling and analyses were evaluated against ANZECC 2000 criteria for protection of 95% of species for freshwater ecosystems. The guidelines apply to water entering an ecosystem and are therefore conservative values for assessment of groundwater.

Due to the potential presence of volatile petroleum hydrocarbons within the groundwater regime, groundwater HSLs from the NEPM document have been utilised to assess potential risks associated with vapour intrusion.

4.3 Quality Assurance / Quality Control

4.3.1 Soil

Samples were obtained using industry accepted protocols for sample treatment, preservation, and equipment decontamination. Sampling equipment was decontaminated between sample locations and a clean pair of nitrile gloves used for the collection of each sample into laboratory supplied glass sampling jars and bags.

Samples were placed on ice on-site and maintained on ice during transport to the testing laboratories. Two intra-laboratory duplicate soil sample were obtained and identified as:

- D1 - duplicate of primary sample BH1 0.3 – 0.5m; and
- D2 – duplicate of primary sample BH4 0.3 – 0.5m.

The duplicate samples were submitted to the laboratory for analysis for quality control purposes. Comparison between the primary and duplicate samples are presented in the results summary tables in Appendix B.

The Relative Percent Differences (RPDs) were calculated for the duplicate sample and presented in the results summary table in Appendix B. The RPDs were within the control limit of 40% and indicated good correlation between the primary and duplicate samples.

One rinsate sample (RINSATE) was collected from the hand tools to assess the efficacy of decontamination techniques. Analysis of the rinsate sample indicated that it was free of contaminants.

In addition to the field quality control procedures, the laboratory conducted internal quality control testing including surrogates, blanks, and laboratory duplicate samples. The results are presented with the laboratory test results in Appendix B.

All laboratory quality control data is within acceptable limits for the tests carried out. Therefore, on the basis of the results of the field and laboratory quality control procedures and testing, the data is considered to reasonably represent the concentrations of contaminants in the soils at the sample locations at the time of sampling and the results can be adopted for this assessment.

4.3.2 Groundwater

Samples were obtained using industry accepted protocols for sample treatment, preservation, and equipment decontamination. Sampling and monitoring equipment were decontaminated between sample locations and a clean pair of nitrile gloves used for the collection of each sample into laboratory supplied sample bottles.

Samples were placed on ice on-site and maintained on ice during transport to the testing laboratories.

One intra-laboratory duplicate sample identified as DW1 (duplicate of primary sample MW1) was submitted to the laboratory for analysis for quality control purposes.

Comparison between the primary, duplicate and triplicate samples are presented in the results summary tables in Appendix B.

The Relative Percent Differences (RPDs) were calculated for the duplicate sample and presented in the results summary table in Appendix A. The RPDs were generally within the control limit of 40% with the exception of TRH (all fractions excluding C_6-C_9).

This discrepancy is likely to be the result of an uneven distribution of TRH impacted groundwater in the replicate samples as multiple bailer volumes were needed to in order to obtain the required volume for the various containers following field parameter measurement stabilisation. The higher concentrations reported in the primary sample have been used for data interpretation. As such, the RPD exceedance of the duplicate RPD is not considered to have affected the useability of the data obtained.

A trip blank and trip spike were taken during the sampling. Analysis of the trip blank indicated that it was free of contaminants. Analysis of the trip spike indicated that the contaminants were within the acceptable recovery limits.

One rinsate sample (RINSATE 2) was collected from the hand-held water quality probe to assess the efficacy of decontamination techniques. Analysis of the rinsate sample indicated that it was free of contaminants.

In addition to the field quality control procedures, the laboratory conducted internal quality control testing including surrogates, blanks, and laboratory duplicate samples. The results are presented with the laboratory test results in Appendix B.

All laboratory quality control data is within acceptable limits for the tests carried out. Therefore, on the basis of the results of the field and laboratory quality control procedures and testing, the data is considered to reasonably represent the concentrations of contaminants in the groundwater at the sample locations at the time of sampling and the results can be adopted for this assessment.

5 SITE CONTAMINATION ASSESSMENT - RESULTS

5.1 Subsurface Conditions - Soil

Moderate to strong hydrocarbon odour was present in borehole BH1 from 1.5m, in BH2 from 0.2m and in BH7 from1.0m, until the depth of the holes were terminated respectively.

PID readings from samples which were headspace screened are outlined below:

- BH1 - 315ppm to 570ppm (moderate to high volatile vapour detected;
- BH2 - 310ppm to 414ppm (moderate volatile vapour detected);
- BH3 - 250pmm to 364ppm (moderate volatile vapour detected);
- BH4 - 190ppm (low to moderate volatile vapour detected);
- BH5 - 70ppm (low volatile vapour detected);
- BH6 - 65ppm (low volatile vapour detected);
- BH7 260ppm to 270ppm (moderate volatile vapour detected); and
- BH8 270ppm to 300ppm (moderate volatile vapour detected).

The calibration certificate (Worksheet No. 599038) for the PID is attached in Appendix D.

The soil types recorded in surface samples are summarised below in Table 6.

Table 6: Summary of Subsurface Conditions (Soil Samples)

Sample ID	Description
BH7 0.2 – 0.4m	Fill (hardstand): Sandy Gravelly CLAY, low to medium plasticity, brown / orange / dark brown, gravel, coarse grained, sand, fine to medium grained

BH3 0.3 – 0.5m SS1 – SS3 SS5 SS6	Fill: Sandy Gravelly CLAY, low to medium plasticity, brown / orange, gravel, coarse grained, sand, fine to medium grained, some roots
SS4	Fill Stockpile: Sandy Gravelly CLAY, low to medium plasticity, brown / dark brown, gravel, coarse grained, sand fine to medium grained, some roots. Material likely to be of topsoil and alluvial origin.
BH1 BH2 BH3 1.3 – 1.5m BH4 BH5 BH6 BH7 1.3 – 1.5m BH8	Alluvial Soil: Silty or Sandy CLAY, low to medium plasticity, grey / dark grey / brown / pale brown / orange, sand, fine to medium grained, trace gravel, coarse grained, gravel content increasing with depth from about 2m below ground surface

5.2 Field Observations - Groundwater

In-situ field groundwater quality parameters were measured using hand-held water quality probe. Measured parameters included dissolved oxygen (DO), electrical conductivity (EC), redox potential (Eh), pH and temperature. Qualitative observations of groundwater quality were also made (including water colour, turbidity, odour and sheen).

A summary of the observations is outlined below. Further information of the groundwater quality parameters and qualitative observations are shown on the sampling field sheets in Appendix A.

- Depth to groundwater in the wells prior to purging was 1.80m, 1.85mand 1.75m below ground surface in wells MW1, MW2 and MW3 respectively;
- A strong hydrocarbon odour was detected, and some sheening observed on extracted groundwater from MW1. The groundwater was brown and completely discoloured;
- A slight to moderate hydrocarbon odour was detected, and some slight sheening observed on extracted groundwater from MW2. The groundwater was brown and completely discoloured; and
- A slight hydrocarbon odour was detected, and some slight sheening observed on extracted groundwater from MW3. The observed odour and sheen decreased with purging. The groundwater was brown and completely discoloured.

5.3 Laboratory Results

5.3.1 Soil

An appraisal of the soil laboratory test results presented in Appendix B is provided below with reference to the adopted soil investigation and screening levels discussed in Section 4.1:

- Concentrations of heavy metals were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site in each of the samples analysed;
- Concentrations of TRH C_6-C_{10} fraction exceeded the adopted HSL in two samples (BH7 1.3 – 1.5m and BH7 1.8 – 2.0m) located at front of the site (to the west of the two former unleaded USTs). The remaining TRH C_6-C_{10} fraction concentrations were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site;
- Concentrations of the remaining TRH fractions and Total TRH (C_{10}-C_{40}) were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site in each of the samples analysed;
- Concentrations of Total PAH were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site in each of the samples analysed;
- Concentrations of Benzo-a-pyrene (B-a-p) exceeded the adopted ESL in two surface samples (SS1 and SS2) located along the edge of eastern side of the existing building. The remaining samples were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site;
- Concentrations of BTEX were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Commercial / Industrial D site in each of the samples analysed with exception of BH7 1.3 – 1.5m and BH7 1.8 – 2.0m) located at front of the site (to the west of the two former unleaded USTs) which exceeded the adopted ESL;
- Concentrations of PCB and OP pesticides were below the laboratory limit of reporting in each of the samples analysed;
- Concentrations of OC pesticides were below the laboratory limit of reporting in each of the samples analysed with the exception of samples SS1 and SS2 located along the edge of eastern side of the existing building which exceeded the laboratory limit of reporting, in the form of Chlordane and Dieldrin, and Chlordane respectively, but were both well below the adopted health investigation criteria for a Commercial / Industrial D site; and
- Asbestos was not detected in each of the soil samples analysed with the exception of sample SS4 collected from the fill stockpile in the west of the site which had trace asbestos detected as being present but at low levels that could not be quantified by the testing laboratory.

5.3.2 Groundwater

An appraisal of the groundwater laboratory test results presented in Appendix B is provided below with reference to the adopted groundwater investigation and screening levels discussed in Section 4.2:

- Concentrations C_6-C_{10} exceeded the laboratory limit of reporting in samples MW1 and MW2 which are located within the UST farm area at the front of the site;

- Concentrations of C_{10}-C_{40} TRH hydrocarbons exceeded the adopted investigation and screening levels in samples MW1 and MW2 which are located within the UST farm area at the front of the site. Concentrations were particularly elevated in the sample from MW1;
- Concentrations PAH exceeded the laboratory limit of reporting in samples from MW1 and MW2 which are located within the UST farm area at the front of the site;
- Concentrations of Naphthalene exceeded the adopted investigation and screening levels in sample MW1 which is located within the UST farm area at the front of the site, and were below the laboratory limit of reporting in samples from MW 2 and MW3;
- Concentrations of BTEX exceeded the adopted investigation and screening levels in the sample from MW1 which is located within the UST farm area at the front of the site, and exceeded the laboratory limit of reporting in but were well below the adopted investigation and screening levels in the sample from MW2;
- Concentrations of Arsenic exceeded the adopted investigation and screening levels in sample MW3 which is located south-western part of the site in front of the former tyre service centre, and exceeded the laboratory limit of reporting but were well below the adopted investigation and screening levels in MW1 and MW2;
- Concentrations of Cadmium exceeded the adopted investigation and screening levels in the samples from MW2 and MW3, and was below the laboratory limit of reporting in in MW1;
- Concentrations of Chromium, Copper, Lead and Zinc exceeded the adopted investigation and screening levels in each of the samples (MW1, MW2 and MW3);
- Concentrations of Nickel exceeded the adopted investigation and screening levels in the samples from MW2 and MW3, and exceeded the laboratory limit of reporting in but was below the adopted investigation and screening levels in the sample from MW1;
- Concentrations of Mercury were either below the laboratory limit of reporting or below the adopted investigation and screening levels in each of the samples (MW1, MW2 and MW3); and
- Concentrations of TRH, PAH and BTEX were below the laboratory limit of reporting in the sample from MW3.

Note: Heavy metals analyses for sample MW3 was reported as total rather than dissolved heavy metals due to the elevated fines and suspended solids content in the groundwater sample. As such, field filtering was not possible so total heavy metals have been provided.

5.4 Conceptual Site Model

Based on the site observations and knowledge obtained about site activities as outlined above, a conceptual site model (CSM) has been developed.

5.4.1 Potential Sources of Contamination

Potential Areas of Environmental Concern (AECs) and Chemicals of Concern (COCs) identified for the assessment are outlined in Table 7.

Table 7: Potential AECs and COCs

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC1: USTs and former service station area	Leaks and spills from USTs and associated fuel infrastructure (pipes, lines, bowsers etc.)	TRH, BTEX, PAH, Lead	High
AEC2: Soils in the vicinity of the existing structure	Potentially hazardous building materials Potential usage and/or spillage of stored chemicals and from vehicles and machinery including fuels/oils, pesticides etc.	Heavy Metals and asbestos Heavy Metals, TRH, BTEX, PAH, and OC/OPP, PCB	Moderate
AEC3: Equipment and scrap materials storage area	Potential usage and/or spillage of stored chemicals and from vehicles and machinery including fuels/oils, pesticides etc.	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP	Low to moderate
AEC4: Fill stockpile	Importation of potentially contaminated fill of unknown origin	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP and asbestos	Low to moderate
AEC5: Presence of fill of unknown origin	Importation of potentially contaminated fill of unknown origin	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP and asbestos	Low to moderate
Heavy Metals - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *BTEX - Benzene, Toluene, Ethylbenzene and Xylene* *TRH - Total Recoverable Hydrocarbons* *PAH – Polycyclic Aromatic Hydrocarbons* *PCB – Polychlorinated Biphenyls* *OC/OPP – Organochlorine and Organophophorus Pesticides*			

The approximate locations of the AEC's are shown on Figure 3.

The presence of measurable concentrations of chemical substances does not automatically imply that the site will cause harm. In order for this to be the case, an exposure route must be present allowing a source to adversely affect a receptor.

5.4.2 Potential Exposure Pathways and Receptors

Based on the site observations and knowledge obtained about site activities as outlined above, potential exposure pathways and receptors identified for the assessment are summarised in Table 8.

Table 8: Potential Exposure Pathways and Receptors

Chemicals of Concern	Key Pathways	Key Receptors
Asbestos, heavy metals	Generation of dust during earthworks which is inhaled	Onsite - Construction and site workers Offsite - Adjacent sites
Heavy metals, TPH, BTEX, PAH, PCB, OC/OPP	Skin contact / ingestion, plant uptake, inhalation	Onsite - Construction and site workers, future site users, vegetation in landscaped/garden areas
Heavy Metals, TPH, BTEX, PAH, PCB, OC/OPP	Surface runoff, leaching of soils, migration of groundwater plume	Offsite - Surface water and groundwater ecosystems and users, and underground services maintenance / construction workers

Heavy Metals - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc
BTEX - Benzene, Toluene, Ethylbenzene and Xylene
TPH - Total Petroleum Hydrocarbons
PAH – Polycyclic Aromatic Hydrocarbons
PCB – Polychlorinated Biphenyls
OC/OPP – Organochlorine and Organophophorus Pesticides

5.5 Discussion

A combined Stage 1 & 2 site contamination assessment was undertaken to assess the nature and extent of soil and groundwater contamination, and to evaluate the site's suitability for a proposed VIC from a contamination perspective prior to Midcoast Council acquiring the property.

The site history study indicates that it has been used for commercial / industrial purposes since at the least the late 1950's which included the storage and dispensing of fuel from USTs. The existing building has historically been used as service station, machinery shop and tyre service centre and is likely to have closed permanently in the 2010's.

The former fuel bowsers at the front of the site have been removed (it is unknown when this occurred) however, it appears as though at least four USTs have been left in-situ; it is unknown if these were decommissioned. On this basis, it is likely that fuel has been stored in the USTs for over 60 years.

The site layout appears to have remained unchanged since 2002.

Identified AEC's included soils and groundwater in the vicinity of the existing UST tank farm and former service station area at the front of the site, soils within the vicinity of the existing building, industrial equipment and scrap materials storage area in the south-west corner and a fill stockpile located in the western part of the site.

No obvious Asbestos Containing Materials (ACM) were noted, however a full ACM assessment was not completed as part of this scope of works.

The results of the laboratory analysis of soil samples collected from targeted locations (AEC's) revealed concentrations of chemicals of concern exceeded the HILs for a Commercial/Industrial site in two samples for TRH C_6-C_{10} fraction from borehole BH7 which was drilled just to the south-east of the two unleaded USTs in the eastern part of the tank farm area (AEC 1).

The same two samples from BH7 described above also exceeded the ecological assessment criteria for BTEX. Two other samples (SS1 and SS2) obtained from soils adjacent to the eastern side of the building exceeded the ecological assessment criteria for Benzo-a-pyrene.

Analysis of the remaining soil samples submitted for analysis reported chemical concentrations either below the laboratory limit of reporting of below the adopted health and ecological assessment criteria.

PID results indicated moderate to high hydrocarbon impact to the underlying soils within the vicinity of the tank farm with results ranging from 260 to 570ppm.

PID results from the remaining samples obtained from across the site ranged from 65 to 364 ppm indicating low to moderate hydrocarbon impact, however, these results did not reflect the results of the results of the soil sampling.

One surface soil sample (SS4) obtained from the fill stockpile in the western part of the site contained Chrysolite (white) asbestos but at levels below the laboratory Limit of Reporting (LOR) of 0.1g/kg (0.01%) which is presented as "No*" on the attached laboratory test reports.

The results of the laboratory analysis of groundwater samples collected from the three groundwater monitoring wells (MW1 to MW3) revealed concentrations of chemicals of concern:

- Exceeded the adopted guideline criteria for Total TRH, Naphthalene, BTEX and heavy metals (Chromium, Copper, Lead and Zinc) in MW1 which is located at the eastern end of the tank farm area at the front of the site near the two unleaded USTs:
- Exceeded the guideline criteria for Total TRH and heavy metals (Cadmium, Chromium, Copper, Lead, Nickel and Zinc) in MW2 which is located at the western end of the tank farm area at the front of the site near the large unleaded UST, and;
- Exceeded the adopted criteria for heavy metals (Arsenic, Cadmium, Chromium, Copper, Lead Nickel and Zinc) in MW3 which is located in the south-west of the site in front of the former tyre service centre part of the existing building.

The elevated levels of TRH, Naphthalene and BTEX in groundwater are considered to be associated with the former service station use and USTs. The elevated levels of heavy metals in groundwater are considered potentially to be associated with the historical industrial use of the site over a long period over time.

Based on the groundwater results obtained, it appears that the hydrocarbon impacted groundwater is contained to the north and north-east areas of the site.

With regard to the tank farm and former station area, the results of analyses of soil samples for hydrocarbon and lead contaminants generally indicate modest impact which appears to be limited to the vicinity of the tank farm area. However, given the concentrations of TRH and BTEX

compounds identified in the groundwater at well MW1 It is considered likely that gross soil impacts remain locally in this vicinity.

5.6 Site Assessment Conclusions and Recommendations

Should Midcoast Council choose to proceed with the acquisition of the site, it is recommended that additional site assessment works is undertaken to determine the extent of groundwater impacts and whether they pose a risk to on-site and off-site receptors (including surface water ecosystems associated with Gloucester River and the tributary creek). Following completion of additional assessment works a Remedial Action Plan (RAP) should be prepared by a suitably qualified environmental consultant which specifies the methodology for the removal, disposal and validation of the USTs and remediation of associated gross petroleum hydrocarbon impacts to soil.

The decommissioning works should be undertaken in accordance with Environment Protection Authority publication *Underground Petroleum Storage Systems - Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019* (December 2020).

It is recommended that a contractor experienced in the removal of USTs be engaged to facilitate the removal of the USTs and associated fuel infrastructure. The removal should be supervised by a suitably qualified environmental consultant and should involve PID screening of the remedial excavations followed by validation sampling in accordance with the specifications outlined in the RAP. Validation sampling of the floors and walls of the remedial excavations is required to assess the efficacy of the removal of the hydrocarbon impacted soils surrounding the USTs.

Further consideration of the requirements for the remediation and management of groundwater contamination can be made once the condition of the underground infrastructure is determined upon removal and the extent of soil contamination around the infrastructure are known.

Impacted excavation spoil should be classified in accordance with NSW EPA Waste Classification Guidelines (2014) and disposed of to a licenced landfill.

Remedial excavation should be backfilled with Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) under the Resource Recovery Order/Exemption under Part 9, Clause 91 to 93 of the POEO (Waste) Regulation.

A waste classification of the materials contained within the stockpile in the western part of the site should also be undertaken to facilitate the offsite disposal of the stockpile. A preliminary waste classification has been provided below in Section 6.

Should Midcoast Council proceed with the acquisition of the of the property and choose to demolish the existing building, a Hazardous Materials Survey should be undertaken by a suitably qualified consultant prior to the commencement of the demolition works.

Should unidentified fill materials be encountered during redevelopment of the property that require removal off site, assessment for a *Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014* in accordance with the *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 – the Excavated Natural Material (ENM) Order 2014,* will be required.

Based on the results obtained in this investigation, it is considered that remediation works will be necessary to enable the site to be made suitable for the proposed VIC development from a

contamination perspective. Further assessment will be necessary to determine the extent of remediation works required. Site preparation works must be conducted in accordance with appropriate site management protocols and legislative requirements.

6 DISPOSAL OF MATERIALS

6.1 Preliminary Waste Classification

A waste classification for excavated materials to facilitate off-site disposal to a licensed landfill in accordance with NSW EPA (2014) *Waste Classification Guidelines* will be required during remediation should it proceed.

Table 2 of the '*Waste Classification Guidelines (2014)*' nominates a suite of analytes to be tested (Column 1) and also provides the maximum concentration (CT1) allowable within the soil for classification without the need for additional toxicity characteristics leaching procedure (TCLP) testing for both general solid waste (Column 2) and restricted solid waste (Column 3) for each analyte. Should the CT1 values be exceeded, the guidelines provide a Specific Contaminant Concentration (SCC) value to allow further evaluation of contaminant concentrations in conjunction with TCLP testing.

An evaluation of the laboratory test results for the existing stockpiled material and other sampled soils against the waste classification guidelines outlined above are presented in the summary table in Appendix B. Further laboratory analysis will be required to classify other surplus soils and soils to be removed from site for remediation purposes.

Based on the preliminary results:

- The near surface soils present within AEC 2 (vicinity of the existing structure) exceed the criteria for Restricted Solid Waste due to an elevated B-a-p concentration in sample SS2 and would be classified as Hazardous Waste;
- Sample SS1 and SS2, both present with AEC 2 (vicinity of the existing structure) exceed the criteria for General Solid Waste due to elevated B-a-p and Lead concentrations respectively; and

The above preliminary waste classifications do not include TCLP testing for B-a-p and Lead. It is likely that the Hazardous and Restricted Solid Waste classifications outlined could be reduced if TCLP testing for these contaminants were to be conducted.

In addition, the Hazardous Waste and Restricted Waste Classifications outlined above are based on one elevated sample where the SCC2 value, and two elevated samples exceeding the SCC1 value. However, it is considered likely that in a remediation setting where B-a-p and Lead impacted soils have been excavated and stockpiled for disposal that this classification could be reduced, as the classification would be based on concentrations for the body of waste generated from the excavated soils. The use of statistical analysis to consider average concentrations from a data set could also be employed.

It is recommended that further waste classification testing including TCLP analysis be undertaken during site remediation works should they be undertaken.

7 LIMITATIONS

This report comprises the results of an investigation carried out for a specific purpose and client as defined in the document. The report should not be used by other parties or for purposes or projects other than those assumed and stated within the report, as it may not contain adequate or appropriate information for applications other than those assumed or advised at the time of its preparation. The contents of the report are for the sole use of the client and no responsibility or liability will be accepted to any third party. The report should not be reproduced either in part or in full, without the express permission of Regional Geotechnical Solutions Pty Ltd.

Contaminated site investigations are on data collection, judgment, experience, and opinion. By its nature, it is less exact than other engineering disciplines. The findings presented in this report and used as the basis for the recommendations presented herein were obtained using normal, industry accepted practises and standards. To our knowledge, they represent a reasonable interpretation of the general condition of the site. Under no circumstances, however, can it be considered that these findings represent the actual state of the site at all points.

Recommendations regarding ground conditions referred to in this report are estimates based on the information available at the time of its writing. Estimates are influenced and limited by the fieldwork method and testing carried out in the site investigation, and other relevant information as has been made available. In cases where information has been provided to Regional Geotechnical Solutions for the purposes of preparing this report it has been assumed that the information is accurate and appropriate for such use. No responsibility is accepted by Regional Geotechnical Solutions for inaccuracies within any data supplied by others.

If site conditions encountered during construction vary significantly from those discussed in this report, Regional Geotechnical Solutions Pty Ltd should be contacted for further advice.

This report alone should not be used by contractors as the basis for preparation of tender documents or project estimates. Contractors using this report as a basis for preparation of tender documents should avail themselves of all relevant background information regarding the site before deciding on selection of construction materials and equipment.

If you have any questions regarding this project, or require any additional consultations, please contact the undersigned.

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

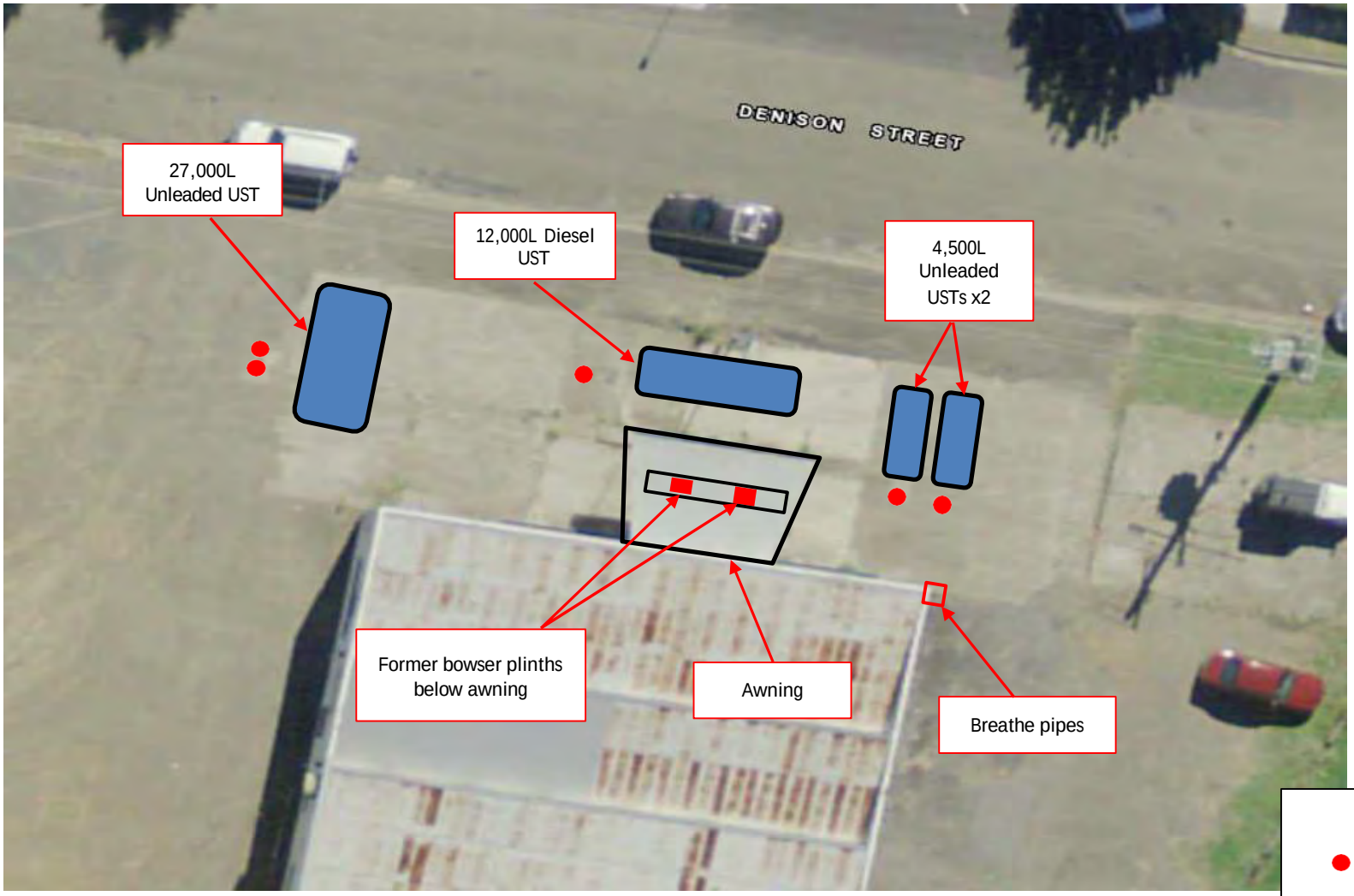
Prepared by

Andrew Hills

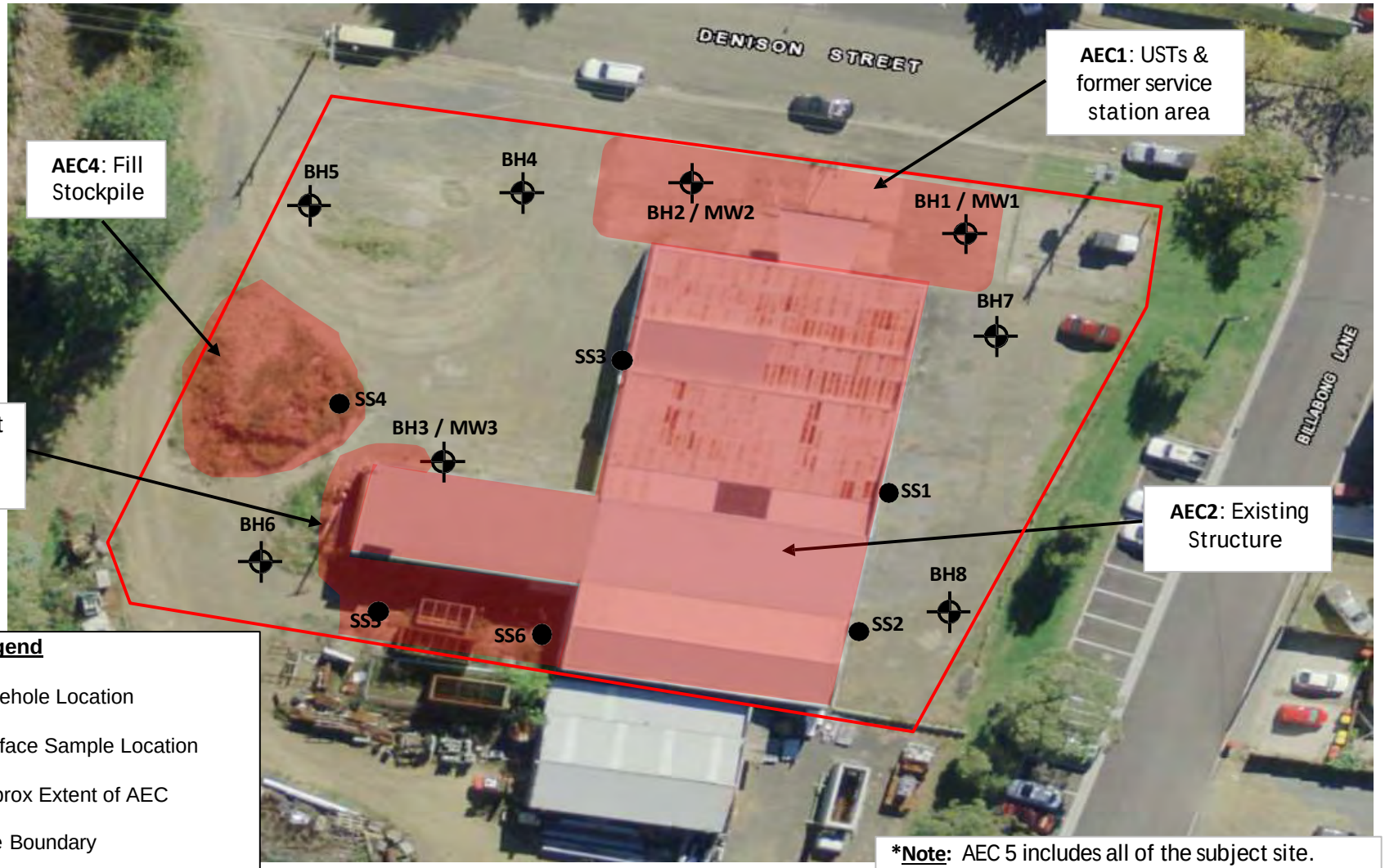
Senior Environmental Engineer

Figures

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Midcoast Council	Job No.	RGS02423.1
	Project:	Proposed Visitor Information Centre 17 Denison Street, Gloucester	Drawn By:	APH
			Scale:	As Shown
			Date:	25-Jan-22
	Title:	Site Location Plan	Drawing No.	**Figure 1**



REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Midcoast Council	Job No.	RGS02423.1
	Project:	Proposed Visitor Information Centre 17 Denison Street, Gloucester	Drawn By:	APH
			Scale:	As Shown
			Date:	25-Jan-22
	Title:	Former Fuel Services Layout Plan	Drawing No.	**Figure 2**



REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Midcoast Council	Job No.	RGS02423.1
	Project:	Proposed Visitor Information Centre 17 Denison Street, Gloucester	Drawn By:	APH
			Scale:	As Shown
			Date:	25-Jan-22
	Title:	Sample Location Plan	Drawing No.	**Figure 3**

Appendix A

Results of Field Investigations

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: B H1/MW1

CLIENT: Midcoast Council
PROJECT NAME: Proposed Visitor Information Centre
SITE LOCATION: 17 Denison Street, Gloucester
TEST LOCATION: See Figure 2

PAGE: 1 of 1
JOB NO: RGS02423.1
LOGGED BY: APH
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
EASTING:
NORTHING:
SURFACE RL: Not Measured m
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/V	9/12/2021 12:25:00 PM	0.30m		0			**CONCRETE:** Grey					CONCRETE PAVEMENT
		E 0.50m		0.5		CL	0.20m **Silty CLAY:** Low to medium plasticity, grey/dark grey, trace sand, course grained, strong hydrocarbon odour	M				ALLUVIAL SOIL
		1.30m		1.0			Becoming brown/pale brown					
		E 1.50m		1.5			Strong hydrocarbon odour on groundwater					
AD/T				2.0		CL	1.90m **Gravelly CLAY:** Low to medium plasticity, pale brown/pale grey, gravel, coarse grained, subrounded, some sand, fine to medium grained					
				2.5								
				3.0								
				3.5			3.50m Hole Terminated at 3.50 m					

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO B H2/MW2

CLIENT: Midcoast Council
PROJECT NAME: Proposed Visitor Information Centre
SITE LOCATION: 17 Denison Street, Gloucester
TEST LOCATION: See Figure 2

PAGE: 1 of 1
JOB NO: RGS02423.1
LOGGED BY: APH
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
EASTING:
NORTHING:
SURFACE RL: Not Measured m
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/V	9/12/2021 1:20:00 PM	0.30m E 0.50m 1.30m E 1.50m		0.5 1.0 1.5 2.0 2.5 3.0 3.5		CL CL CL	**CONCRETE:** Grey 0.20m **Silty CLAY:** Low to medium plasticity, grey/brown/pale brown, trace gravel, course grained, moderate hydrocarbon odour 2.30m **Sandy CLAY:** Low to medium plasticity, pale grey/pale brown/orange, sand, fine to medium grained 3.00m **Clayey GRAVEL:** Low to medium plasticity, pale brown/pale grey, gravel, coarse grained, subrounded, some cobbles, some sand, fine to medium grained 3.50m Hole Terminated at 3.50 m	M				CONCRETE PAVEMENT ALLUVIAL SOIL

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO B H3/MW3

CLIENT: Midcoast Council
PROJECT NAME: Proposed Visitor Information Centre
SITE LOCATION: 17 Denison Street, Gloucester
TEST LOCATION: See Figure 2

PAGE: 1 of 1
JOB NO: RGS02423.1
LOGGED BY: APH
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
EASTING:
NORTHING:
SURFACE RL: Not Measured m
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	9/12/2021 2:00:00 PM	0.30m E 0.50m		0.5		CL	**FILL:** Sandy Gravelly CLAY, low to medium plasticity, brown/orange, sand, fine to medium grained, gravel, coarse grained	M				FILL
							0.60m					
				1.0		CL	**Silty CLAY:** Low to medium plasticity, brown/orange, some gravel, course grained					ALLUVIAL SOIL
		1.30m E 1.50m		1.5		CL	1.30m **Clayey GRAVEL:** Low to medium plasticity, brown/orange, gravel, coarse grained, some cobbles					
				2.0								
				2.5								
				3.0								
				3.5			3.50m Hole Terminated at 3.50 m					

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: BH4

CLIENT: Midcoast Council
PAGE: 1 of 1
PROJECT NAME: Proposed Visitor Information Centre
JOB NO: RGS02423.1
SITE LOCATION: 17 Denison Street, Gloucester
LOGGED BY: APH
TEST LOCATION: See Figure 2
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
EASTING:
SURFACE RL: Not Measured m
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	Not Encountered	0.30m E 0.50m 1.30m E 1.50m		0.5 1.0 1.5 2.0 2.5 3.0 3.5		CL 0.25m CL 1.60m	**FILL:** Sandy Gravelly CLAY, low to medium plasticity, brown/orange, gravel, coarse grained, sand, fine to medium grained **Silty CLAY:** Low to medium plasticity, brown/orange, some gravel, course grained Becoming pale brown Hole Terminated at 1.60 m	M				FILL (HARDSTAND) ALLUVIAL SOIL

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH5

CLIENT: Midcoast Council
PAGE: 1 of 1
PROJECT NAME: Proposed Visitor Information Centre
JOB NO: RGS02423.1
SITE LOCATION: 17 Denison Street, Gloucester
LOGGED BY: APH
TEST LOCATION: See Figure 2
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
EASTING:
SURFACE RL: Not Measured m
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	Not Encountered	0.30m E 0.50m		0.5		CL	**Silty CLAY:** Low to medium plasticity, brown/dark brown, some gravel, course grained	M				ALLUVIAL SOIL
				1.0		CL	1.00m **Sandy CLAY:** Low to medium plasticity, brown/orange, sand, fine to medium grained					
				1.5			1.60m					
							Hole Terminated at 1.60 m					
				2.0								
				2.5								
				3.0								
				3.5								

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

Moisture Condition

D	Dry
M	Moist
W	Wet
W_P	Plastic Limit
W_L	Liquid Limit

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: BH6

CLIENT: Midcoast Council
PAGE: 1 of 1
PROJECT NAME: Proposed Visitor Information Centre
JOB NO: RGS02423.1
SITE LOCATION: 17 Denison Street, Gloucester
LOGGED BY: APH
TEST LOCATION: See Figure 2
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
EASTING:
SURFACE RL: Not Measured m
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	Not Encountered	0.30m E 0.50m 1.30m E 1.50m		0.5 1.0 1.5		CL CL	**FILL:** Gravelly CLAY, low to medium plasticity, brown/orange, gravel, coarse grained, some roots 0.25m **Silty CLAY:** Low to medium plasticity, brown/dark brown, some roots Becoming pale brown 1.60m	M				FILL ALLUVIAL SOIL
				2.0 2.5 3.0 3.5			Hole Terminated at 1.60 m					

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: BH7

CLIENT: Midcoast Council
PAGE: 1 of 1

PROJECT NAME: Proposed Visitor Information Centre
JOB NO: RGS02423.1

SITE LOCATION: 17 Denison Street, Gloucester
LOGGED BY: APH

TEST LOCATION: See Figure 2
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
EASTING:
SURFACE RL: Not Measured m

BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	Not Encountered	0.20m E 0.40m		0.5		CL	**FILL:** Sandy Gravelly CLAY, low to medium plasticity, brown/orange/dark brown, gravel, coarse grained, sand, fine to medium grained	M				FILL (HARDSTAND)
						CL	0.45m **Silty CLAY:** Low to medium plasticity, brown/orange/dark brown, some gravel, course grained					ALLUVIAL SOIL
				1.0			Strong hydrocarbon odour appearing					
		1.30m E 1.50m		1.5								
		1.80m E 2.00m		2.0								
						GC	2.10m 2.20m **Clayey GRAVEL:** Low to medium plasticity, brown/orange					
							Hole Terminated at 2.20 m					
				2.5								
				3.0								
				3.5								

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: BH8

CLIENT: Midcoast Council
PAGE: 1 of 1

PROJECT NAME: Proposed Visitor Information Centre
JOB NO: RGS02423.1

SITE LOCATION: 17 Denison Street, Gloucester
LOGGED BY: APH

TEST LOCATION: See Figure 2
DATE: 9/12/21

DRILL TYPE: FG101 Truck Mounted Drill Rig
EASTING:
SURFACE RL: Not Measured m

BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/T	Not Encountered	0.30m E 0.50m 1.30m E 1.50m		0.5 1.0 1.5		CL CL	0.05m **BITUMEN:** Black **FILL:** Sandy Gravelly CLAY, low to medium plasticity, brown/orange, sand, fine to medium grained 0.30m **Silty CLAY:** Low to medium plasticity, brown/orange/dark brown, some gravel, course grained 1.60m	M				PAVEMENT SEAL FILL (PAVEMENT GRAVEL) ALLUVIAL SOIL
				2.0 2.5 3.0 3.5			Hole Terminated at 1.60 m					

LEGEND:

Water
- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes
- Gradational or transitional strata
- Definitive or distict strata change

Notes, Samples and Tests

U_{50}	50mm Diameter tube sample
CBR	Bulk sample for CBR testing
E	Environmental sample
ASS	Acid Sulfate Soil Sample
B	Bulk Sample

Field Tests

PID	Photoionisation detector reading (ppm)
DCP(x-y)	Dynamic penetrometer test (test depth interval shown)
HP	Hand Penetrometer test (UCS kPa)

Consistency

		UCS (kPa)
VS	Very Soft	<25
S	Soft	25 - 50
F	Firm	50 - 100
St	Stiff	100 - 200
VSt	Very Stiff	200 - 400
H	Hard	>400
Fb	Friable	

Density

V	Very Loose	Density Index <15%
L	Loose	Density Index 15 - 35%
MD	Medium Dense	Density Index 35 - 65%
D	Dense	Density Index 65 - 85%
VD	Very Dense	Density Index 85 - 100%

Moisture Condition

D	Dry
M	Moist
W	Wet
W_p	Plastic Limit
W_L	Liquid Limit

RG LIB 1.05.0.GLB Log RG NON-CORED BOREHOLE - TEST PIT RGS02423.1 BH LOGS.GPJ <<DrawingFile>> 17/12/2021 14:19 10.03.00.09 Datgel Lab and In Situ Tool

MW1

GROUNDWATER SAMPLING FIELD SHEET

REGIONAL GEOTECHNICAL SOLUTIONS

CLIENT:	I{.,f,>((' ../>_X-I r Vv1c-r' I	Date: /')	// h ,1
PROJECT			
LOCATION:	I-'7I' .J1,.., --r-. ,....,.. <)(.. / r, (...t><._c o_ <._--AS-	Job No:	;".) £v"L'"I .J
Well Number:	MIA/ I	Sampler:	A./,t'

Field Measurements					
Top of Casine (TOC):	-0	m	Top of Casine (TOC):	-	mAHD
Depth to Groundwater:	f-77)	m(TO()	Surfacetlevation		mAHD
Depth to Groundwater:	f· 1 o	m(bgs)	Groundwater Elevation	I	mAHD
Well Depth:	3 . 40	m(TOC)	Dreanic Vapours in well	"	ppm
Well Depth:	j..$"o	m (bgs)	Depth to Phase Separated Layer	\	m
Thickness of Groudnwater Column:	I • '/-C	m	Thickness of Phase Separated layer		m

Well Purging

Purge Method:	/I(t-,;.i-...... I>:..,,IV- rfAt:]I\JIJ{	Start Purge:	,Z ;,0 S-f) A...
		End Purge:	?--:...h /.'-.
Field Measurement Device:	t\\ a% 1-Jw7ti -	Total Volume Purged:	4 · <"'I L

Time	Temp (•C)	EC(µS/cm)	pH	DO (mg/L)	Purge Volume (L)	Water Level (TOC)	Comments (Appearance, Odour, etc.)
2 0 (>fvt I	I.U·I-.	tJ41	S.4-f-	<t·t)	{-	I --.:.,(	qK,. /4,,(dv-oco,,Lo.-.
							,-, ..IJ- <;f.-aa
						,	...... --L' '.J
							ofx1. ....of
2-;? -;L;J I	rIf,'{		·i -ci'b	I ·4.0	1 <		
							((L(
I, • OCr..o	?,-t,1-3	G	C-t,·o I	7,.-70	(--S	C:..\"	
							I{ I--I

Well Sampling

Sampling Material:	rtc...'t'._.. "'ee-t 1..e..r	Material:	
Start Sampling:	<') : f)"F.f) -	Finish Sampling:	a.--- ,&iI'-.

FieldComments	
Well Head Inegrity:	G-o.,.d
Samples Filtered:	I/.tS;--
Weather Conditions:	t:::n,.,,
Other:	0u.OIt<:£It-J.R c:-_ _,f DI J4.,,H.,J I ID(.

D/If

I<+-\o .ON..J pI-\

) -S-]

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GROUNDWATER SAMPLING FIELD SHEET

REGIONAL GEOTECHNICAL SOLUTIONS

CLIENT: Date:

PROJECT:

LOCATION: Job No:

Well Number: Sampler:

Field Measurements

Top of Casing (TOC):		m	Top of Casing (TOC):		mAHD
Depth to Groundwater:		m (TOC)	Surface Elevation		mAHD
Depth to Groundwater:		m (bgs)	Groundwater Elev on		mAHD
Well Depth:		m (TOC)	Or anic Vapours In well		ppm
Well Depth:		m(bgs)	Depth to Phase Separated Layer		m
Thickness of Groudnwater Column:		m	Thickness of Phase Separated Layer		m

Well Purging

Purge Method:

Field Measurement Device:

Start Purge:

End Purge:

Total Volume Purged: L

Time	Temp (•C)	EC (µS/cm)	pH	DO (mg/L)	Purge Volume (L)	Water Level (TOC)	Comments (Appearance, Odour, etc.)

Well Sampling

Sampling Water@I: Material:

Start Sampling: Finish Sampling:

Field Comments

Well Head Inegrity:

Samples Filtered:

Weather Conditions:

GROUNDWATER SAMPLING FIELD SHEET

REGIONAL GEOTECHNICAL SOLUTIONS

CLIENT:	Date:
PROJECT:	
LOCATION:	Job No:
Well Number:	Sampler:

Field Measurements

Top of Casing (TOC):		m	Top of Casing (TOC): Surface Elevation		mAHD
Depth to Groundwater:		m (TOC)	Groundwater Elevation		mAHD
Depth to Groundwater:		m (bgsl	Organic Vapours in well		ppm
Well Depth:		m(TOC)	Depth to Phase Separated Layer		m
Well Depth:		m (bgsl	Thickness of Phase Separated Layer		m
Thickness of Groudnwater Column:		m			

Well Purging

Purge Method:		Start Purge:	
		End Purge:	
Field Measurement Device:		Total Volume Purged:	L

Time	Temp (°C)	EC (µS/cml	pH	DO (mg/LI	Purge Volume (LI	Water Level (TOCI	Comments (Appearance, Odour, etc.)

Well Sampling

Sampling Material:		Material:	
Start Sampling:		Finish Sampling:	

Field Comments

Well Head Inegrity:	
Samples Filtered:	
Weather Conditions:	
Other:	

Appendix B

Laboratory Test Result Sheets

REGIONAL GEOTECHNICAL SOLUTIONS

Client: Midcoast Council
Job No. RGS02423.1
Project: Stage 1 & Stage 2 Site Contamination Assessment
Location: 17 Dension Street, Gloucester

By: APH
Date: 14.01.22

Location	DEPTH (m)	MATERIAL	Asbestos Presence	TOTAL RECOVERABLE HYDROCARBONS					PAH		BTEX	PCB	OC Pesticides	OP Pesticides	HEAVY METALS							
				C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40	Total	B-a-p					As	Cd	Cr#	Cu	Pb	Ni	Zn	Hg
BH1	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	11	<1	13	18	20	9	42	<0.1
BH1	1.3- 1.5	Alluvium	--	84	60	<100	<100	60	60	<0.5	0.6	<0.1	<0.05	<0.2	8	<1	11	15	15	9	45	<0.1
BH2	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	11	<1	12	20	19	9	40	<0.1
BH2	1.3 - 1.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	8	<1	12	20	13	9	43	<0.1
BH3	0.3 - 0.5	Fill	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	10	16	32	7	50	<0.1
BH3	1.3 - 1.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	8	<1	12	15	13	8	33	<0.1
BH4	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	10	12	20	7	35	<0.1
BH4	1.3 - 1.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	7	<1	11	16	10	8	38	<0.1
BH5	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	10	<1	12	19	17	8	38	<0.1
BH6	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	11	14	25	8	39	<0.1
BH6	1.3 - 1.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	8	<1	11	15	13	9	42	<0.1
BH7	0.2 - 0.4	Fill	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	12	16	21	8	40	<0.1
BH7	1.3 - 1.5	Alluvium	--	**492**	<50	<100	<100	<50	<50	<0.5	125	<0.1	<0.05	<0.2	9	<1	12	16	16	9	51	<0.1
BH7	1.8 - 2.0	Alluvium	--	**614**	80	<100	<100	80	80	<0.5	139	<0.1	<0.05	<0.2	13	<1	10	18	16	8	52	<0.1
BH8	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	13	18	22	10	44	<0.1
BH8	1.3 - 1.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	8	<1	11	16	14	10	50	<0.1
SS1	0.0 - 0.2	Fill	No	<10	<50	620	400	1020	<50	1.6	<0.2	<0.1	0.07	<0.2	8	<1	9	24	52	7	1790	<0.1
SS2	0.0 - 0.2	Fill	No	54	60	1240	470	1770	60	4.4	<0.2	<0.1	0.17	<0.2	8	<1	39	84	197	31	6340	<0.1
SS3	0.0 - 0.2	Fill	No	<10	<50	<100	170	170	<50	<0.5	<0.2	<0.1	<0.05	<0.2	6	<1	7	28	15	7	109	0.2
SS4	0.0 - 0.2	Fill (stockpile)	**No***	<10	<50	340	190	530	<50	<0.5	<0.2	<0.1	<0.05	<0.2	8	<1	15	158	91	14	208	<0.1
SS5	0.0 - 0.2	Fill	No	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	9	<1	19	112	72	15	192	<0.1
SS6	0.0 - 0.2	Fill	No	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	10	<1	8	39	40	8	124	<0.1
MW3	--	Sludge	--	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	--	--	--	<5	<1	5	6	6	3	20	<0.1
D1 (duplicate of BH1)	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	11	<1	14	19	16	10	45	<0.1
D2 (duplicate of BH4)	0.3 - 0.5	Alluvium	--	<10	<50	<100	<100	<50	<50	<0.5	<0.2	<0.1	<0.05	<0.2	12	<1	10	12	21	7	39	<0.1
RINSATE	--	Water	--	<20	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
D1 RPD %				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	5.4	22.2	10.5	6.9	0.0
D2 RPD%				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	10.8	0.0
Health Based Soil investigation Level:*			0.001% (w/w)	310 (0-1m) 480 (1-2m)	NL	NL	NL	NL	4000	40	NL	1	45	45	3000	900	3600	240000	1500	6000	400000	730
*Health Screening Level (HSL)***				310	NL	NL	NL	NL														
*Ecological Screening Level (ESL)****				215	170	1700	3300	NL		1.4	75				**Coarse grained soil in mg/kg**							
				215	170	2500	6600	NL		1.4	95				**Fine grained soil in mg/kg**							

CRITERIA:

* Health Based Investigation Levels for Commercial/Industrial D site (NEPM 2013)

** Health Screening Level (F1) for commercial/industrial land use and fine grained soil (clay), 0 - 1m & 1 -2m depth

*** Ecological Screening Level for commerical/industrial land use

Chromium VI

Speciation testing confirmed only Chromium III present

NL No Limit available

LOR Limit of Reporting

RPD Relative Percent Difference

No* - No asbestos found, at the reporting limit of 0.1g/kg. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.

Denotes concentration exceeds health based guideline for Commercial/Industrial D site
Denotes concentration exceeds ecological guideline for Commercial/Industrial D site
Denotes concentration exceeds health and ecological based guideline for Commercial/Industrial D site

REGIONAL GEOTECHNICAL SOLUTIONS

Summary Table - Comparison of Groundwater Chemical Analysis Results (concentrations in ug/L) **for 'Aquatic Ecosystems'**

Client: Midcoast Council
Job No. RGS02423.1
Project: Proposed Vistor Information Centre
Location: 17 Denison Street, Gloucester

Location	TOTAL RECOVERABLE HYDROCARBONS					Total PAH	Naphthalene (PAH)	BTEX				DISSOLVED HEAVY METALS (mg/L)							
	C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40			Benzene	Toluene	Ethyl-benzene	Xylenes (Total)	As	Cd	Cr**	Cu	Pb	Ni	Zn	Hg
MW1	111000	144000	10600	310	**155000**	3260	**561**	**18800**	**23500**	**3990**	**20400**	0.01	<0.0001	**0.003**	**0.009**	**0.01**	0.004	**0.029**	<0.0001
MW2	70	210	1320	<100	**1530**	64.6	<5	2	10	3	18	0.007	**0.0006**	**0.013**	**0.183**	**0.031**	**0.049**	**0.765**	0.0002
MW3#	<20	<100	<100	<100	<100	<0.5	<5	<1	<2	<2	<2	**0.362**	**0.0102**	**4.18**	**4.82**	**5.49**	**2.83**	**17.6**	<0.0010
DW1 (Duplicate of MW1)	110000	48800	3640	<100	**52400**	--	**531**	**18700**	**28800**	**4060**	**20800**	--	--	--	--	--	--	--	--
RINSATE2	<20	--	--	--	--	--	--	<1	<2	<2	<2	--	--	--	--	--	--	--	--
TRIP SPIKE	--	--	--	--	--	--	--	14	15	14	30	--	--	--	--	--	--	--	--
TRIP BLANK	--	--	--	--	--	--	--	<1	<2	<2	<2	--	--	--	--	--	--	--	--
DW1 - RPD%	0.9	**98.7**	**97.8**	**102.4**	**98.9**	--	5.5	0.53	20.3	1.7	1.9	--	--	--	--	--	--	--	--
CRITERIA (ANZECC 2000) - 95% Protection of Species for Aquatic Ecosystems - Freshwater	NL	NL	NL	NL	NL	NL	16	950	NL	NL	550	0.024	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.0006
Recreational Human Health Screening Criteria	NL	NL	NL	NL	NL	NL	NL	10	8000	3000	6000	0.05	0.005	0.05	1.0	0.05	0.1	5.0	0.001
Health Screening Level (HSL)^	NL	NL	NL	NL	NL	NL	NL	30000	NL	NL	NL								
Dutch Intervention Level					600						350								
NSW Clean Waters Act					10,000*														

NOTES:

Denotes concentration exceeds adopted guideline criteria

*TRH Criteria based on NSW Clean Waters Act criteria for oil and grease entering waters

** Guideline for CrVI, no limit available for CrIII

- Total heavy metals rather than dissolved metals reported due to field filtering not being possible

^Health Screening Level (F2) for commercial/industrial land use and fine grained soil (clay), 2 - 4m depth

NL No Limit available

LOR Limit of Reporting

N/D Not Detected

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2145800**	Page	: 1 of 24
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: Andrew Hills	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS02423.1 PROPOSED VISITOR INFORMATION CENTRE	Date Samples Received	: 15-Dec-2021 09:37
Order number	: ----	Date Analysis Commenced	: 17-Dec-2021
C-O-C number	: ----	Issue Date	: 22-Dec-2021 17:16
Sampler	: ----		
Site	: 17 DENISON STREET, GLOUCETER		
Quote number	: EN/222		
No. of samples received	: 25		
No. of samples analysed	: 25		

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.

Signatories	*Position*	*Accreditation Category*
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by 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.

- 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.
- EG005T: Poor precision was obtained for Znic on sample ES2145800 #21. Confirmed by re-digestion and reanalysis.
- EP071: Results of sample BH1 1.3-1.5 have been confirmed by re-extraction and re-analysis.
- EP068: Positive results have been confirmed by re-extraction and re-analysis.
- EG035: Positive Mercury result ES2145800 #19 has been confirmed by reanalysis.
- 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	BH1 0.3-0.5	BH1 1.3-1.5	BH2 0.3-0.5	BH2 1.3-1.5	BH3 0.3-0.5
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit	ES2145800-001	ES2145800-002	ES2145800-003	ES2145800-004	ES2145800-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	18.7	16.9	24.7	17.3	22.6
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	8	11	8	12
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	11	12	12	10
Copper	7440-50-8	5	mg/kg	18	15	20	20	16
Lead	7439-92-1	5	mg/kg	20	15	19	13	32
Nickel	7440-02-0	2	mg/kg	9	9	9	9	7
Zinc	7440-66-6	5	mg/kg	42	45	40	43	50
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<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
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<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	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<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	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<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	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<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	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH1 0.3-0.5	BH1 1.3-1.5	BH2 0.3-0.5	BH2 1.3-1.5	BH3 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-001	ES2145800-002	ES2145800-003	ES2145800-004	ES2145800-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<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	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<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	<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	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<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	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<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	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<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	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<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	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<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	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH1 0.3-0.5	BH1 1.3-1.5	BH2 0.3-0.5	BH2 1.3-1.5	BH3 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-001	ES2145800-002	ES2145800-003	ES2145800-004	ES2145800-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	**67**	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	**90**	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**90**	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractio s									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	**84**	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	**83**	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	**60**	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**60**	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**60**	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	**0.6**	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH1 0.3-0.5	BH1 1.3-1.5	BH2 0.3-0.5	BH2 1.3-1.5	BH3 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-001	ES2145800-002	ES2145800-003	ES2145800-004	ES2145800-005
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	0.6	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	0.6	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		96.4	107	124	117	80.4
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		95.7	91.0	95.3	98.1	78.7
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		113	101	112	110	92.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		78.8	87.5	86.1	86.2	88.9
2-Chlorophenol-D4	93951-73-6	0.5	%		75.8	88.4	86.5	86.1	88.7
2.4.6-Tribromophenol	118-79-6	0.5	%		65.0	68.8	67.6	67.2	66.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		86.4	95.8	95.0	96.1	98.2
Anthracene-d10	1719-06-8	0.5	%		109	114	113	117	117
4-Terphenyl-d14	1718-51-0	0.5	%		87.3	92.4	91.6	92.4	93.0
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		83.5	73.3	80.9	89.7	77.2
Toluene-D8	2037-26-5	0.2	%		89.0	83.3	83.0	88.6	82.5
4-Bromofluorobenzene	460-00-4	0.2	%		83.5	83.0	79.9	88.7	77.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH3 1.3-1.5	BH4 0.3-0.5	BH4 1.3-1.5	BH5 0.3-0.5	BH6 0.3-0.5
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit	ES2145800-006	ES2145800-007	ES2145800-008	ES2145800-009	ES2145800-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.4	18.6	16.7	16.2	17.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	12	7	10	12
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	10	11	12	11
Copper	7440-50-8	5	mg/kg	15	12	16	19	14
Lead	7439-92-1	5	mg/kg	13	20	10	17	25
Nickel	7440-02-0	2	mg/kg	8	7	8	8	8
Zinc	7440-66-6	5	mg/kg	33	35	38	38	39
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<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
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<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	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<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	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<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	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<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	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH3 1.3-1.5	BH4 0.3-0.5	BH4 1.3-1.5	BH5 0.3-0.5	BH6 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-006	ES2145800-007	ES2145800-008	ES2145800-009	ES2145800-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<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	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<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	<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	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<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	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<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	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<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	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<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	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<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	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH3 1.3-1.5	BH4 0.3-0.5	BH4 1.3-1.5	BH5 0.3-0.5	BH6 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-006	ES2145800-007	ES2145800-008	ES2145800-009	ES2145800-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractio s									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH3 1.3-1.5	BH4 0.3-0.5	BH4 1.3-1.5	BH5 0.3-0.5	BH6 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-006	ES2145800-007	ES2145800-008	ES2145800-009	ES2145800-010
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		107	117	105	78.3	109
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		130	116	120	94.2	112
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		91.6	81.6	82.0	65.4	73.4
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		102	104	102	94.2	101
2-Chlorophenol-D4	93951-73-6	0.5	%		101	102	99.6	94.6	97.2
2.4.6-Tribromophenol	118-79-6	0.5	%		92.0	83.0	83.8	76.8	79.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		109	105	103	98.3	100
Anthracene-d10	1719-06-8	0.5	%		107	107	109	104	105
4-Terphenyl-d14	1718-51-0	0.5	%		88.7	99.8	102	98.0	98.7
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		84.1	93.8	74.7	86.4	82.0
Toluene-D8	2037-26-5	0.2	%		78.8	96.8	79.2	94.1	90.5
4-Bromofluorobenzene	460-00-4	0.2	%		81.0	88.7	73.2	84.6	90.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH6 1.3-1.5	BH7 0.2-0.4	BH7 1.3-1.5	BH7 1.8-2.0	BH8 0.3-0.5
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit	ES2145800-011	ES2145800-012	ES2145800-013	ES2145800-014	ES2145800-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.7	15.8	15.2	16.9	18.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	12	9	13	12
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	11	12	12	10	13
Copper	7440-50-8	5	mg/kg	15	16	16	18	18
Lead	7439-92-1	5	mg/kg	13	21	16	16	22
Nickel	7440-02-0	2	mg/kg	9	8	9	8	10
Zinc	7440-66-6	5	mg/kg	42	40	51	52	44
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<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
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<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	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<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	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<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	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<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	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH6 1.3-1.5	BH7 0.2-0.4	BH7 1.3-1.5	BH7 1.8-2.0	BH8 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-011	ES2145800-012	ES2145800-013	ES2145800-014	ES2145800-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<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	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<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	<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	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<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	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<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	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<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	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<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	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<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	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	**1.5**	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH6 1.3-1.5	BH7 0.2-0.4	BH7 1.3-1.5	BH7 1.8-2.0	BH8 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-011	ES2145800-012	ES2145800-013	ES2145800-014	ES2145800-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	**1.5**	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	**341**	**466**	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	**130**	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**130**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	**492**	**614**	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	**367**	**475**	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	**80**	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**80**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	**80**	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	**1.1**	**2.2**	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	**20.8**	**30.4**	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	**14.2**	**15.9**	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	**64.4**	**67.8**	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	**24.2**	**22.8**	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH6 1.3-1.5	BH7 0.2-0.4	BH7 1.3-1.5	BH7 1.8-2.0	BH8 0.3-0.5
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-011	ES2145800-012	ES2145800-013	ES2145800-014	ES2145800-015
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	125	139	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	88.6	90.6	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	4	3	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		95.5	91.2	87.7	105	82.1
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		115	103	82.4	117	89.2
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		78.2	72.7	105	85.2	65.4
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		99.1	102	100	97.1	95.1
2-Chlorophenol-D4	93951-73-6	0.5	%		97.7	101	99.0	99.9	92.8
2.4.6-Tribromophenol	118-79-6	0.5	%		72.4	82.8	83.3	83.6	72.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		100	102	101	101	96.4
Anthracene-d10	1719-06-8	0.5	%		106	105	105	105	99.0
4-Terphenyl-d14	1718-51-0	0.5	%		99.4	98.5	99.0	98.3	92.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		82.8	89.7	106	105	94.4
Toluene-D8	2037-26-5	0.2	%		83.6	95.9	98.5	99.7	87.0
4-Bromofluorobenzene	460-00-4	0.2	%		78.9	88.6	104	101	88.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH8 1.3-1.5	SS1 0.0-0.2	SS2 0.0-0.2	SS3 0.0-0.2	SS4 0.0-0.2
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit	ES2145800-016	ES2145800-017	ES2145800-018	ES2145800-019	ES2145800-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.9	25.5	28.7	10.2	32.1
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	No	No	No*
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	No	No	No
Asbestos Type	1332-21-4	-	--	----	-	-	-	Ch
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	No	No	No
Organic Fibre	----	0.1	g/kg	----	No	No	No	No
Sample weight (dry)	----	0.01	g	----	557	252	428	392
APPROVED IDENTIFIER:	----	-	--	----	B.SCHRADER	B.SCHRADER	B.SCHRADER	B.SCHRADER
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	8	8	6	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	11	9	39	7	15
Copper	7440-50-8	5	mg/kg	16	24	84	28	158
Lead	7439-92-1	5	mg/kg	14	52	197	15	91
Nickel	7440-02-0	2	mg/kg	10	7	31	7	14
Zinc	7440-66-6	5	mg/kg	50	1790	6340	109	208
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<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	0.07	0.17	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.07	0.10	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.07	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH8 1.3-1.5	SS1 0.0-0.2	SS2 0.0-0.2	SS3 0.0-0.2	SS4 0.0-0.2
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-016	ES2145800-017	ES2145800-018	ES2145800-019	ES2145800-020
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	**0.07**	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<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	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<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	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<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	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<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	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	**0.07**	<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	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<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	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<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	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<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	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<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	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<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	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH8 1.3-1.5	SS1 0.0-0.2	SS2 0.0-0.2	SS3 0.0-0.2	SS4 0.0-0.2
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-016	ES2145800-017	ES2145800-018	ES2145800-019	ES2145800-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	2.9	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	5.2	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	2.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	2.8	11.4	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	2.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	7.9	15.1	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	7.1	12.3	<0.5	0.7
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	2.6	5.8	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	2.1	5.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	2.2	5.8	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	0.7	2.0	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	1.6	4.4	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	0.9	2.7	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	0.8	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	1.1	2.9	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	29.0	81.8	<0.5	0.7
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	2.3	6.9	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	2.5	6.9	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	2.8	6.9	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	43	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	420	750	<100	210
C29 - C36 Fraction	----	100	mg/kg		<100	330	680	<100	210
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	750	1430	<50	420
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractio s									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	54	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	54	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	60	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	620	1240	<100	340
>C34 - C40 Fraction	----	100	mg/kg		<100	400	470	170	190
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	1020	1770	170	530

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH8 1.3-1.5	SS1 0.0-0.2	SS2 0.0-0.2	SS3 0.0-0.2	SS4 0.0-0.2
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00
Compound	CAS Number	LOR	Unit		ES2145800-016	ES2145800-017	ES2145800-018	ES2145800-019	ES2145800-020
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	60	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		100	86.2	115	99.7	110
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		109	85.2	94.6	138	118
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		78.9	77.5	84.8	73.3	67.6
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		99.7	97.1	96.6	101	90.7
2-Chlorophenol-D4	93951-73-6	0.5	%		97.8	95.0	94.4	98.8	92.1
2.4.6-Tribromophenol	118-79-6	0.5	%		74.3	91.5	99.0	90.0	92.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.6	97.3	97.8	101	93.6
Anthracene-d10	1719-06-8	0.5	%		101	99.6	101	108	97.7
4-Terphenyl-d14	1718-51-0	0.5	%		95.5	92.4	96.2	98.5	90.3
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		94.3	102	92.0	103	94.0
Toluene-D8	2037-26-5	0.2	%		92.8	104	93.8	99.2	114
4-Bromofluorobenzene	460-00-4	0.2	%		85.2	97.6	86.0	94.2	104

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS5 0.0-0.2	SS6 0.0-0.2	D1 0.3-0.5	D2 0.3-0.5	----
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	----
Compound	CAS Number	LOR	Unit	ES2145800-021	ES2145800-022	ES2145800-023	ES2145800-024	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	22.5	14.7	19.0	17.2	----
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	494	424	----	----	----
APPROVED IDENTIFIER:	----	-	--	B.SCHRADER	B.SCHRADER	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	10	11	12	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	19	8	14	10	----
Copper	7440-50-8	5	mg/kg	112	39	19	12	----
Lead	7439-92-1	5	mg/kg	72	40	16	21	----
Nickel	7440-02-0	2	mg/kg	15	8	10	7	----
Zinc	7440-66-6	5	mg/kg	192	124	45	39	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<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	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS5 0.0-0.2	SS6 0.0-0.2	D1 0.3-0.5	D2 0.3-0.5	----
			Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	----
Compound	CAS Number	LOR	Unit	ES2145800-021	ES2145800-022	ES2145800-023	ES2145800-024	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
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	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS5 0.0-0.2	SS6 0.0-0.2	D1 0.3-0.5	D2 0.3-0.5	----
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	----
Compound	CAS Number	LOR	Unit		ES2145800-021	ES2145800-022	ES2145800-023	ES2145800-024	--------
					Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractio s									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS5 0.0-0.2	SS6 0.0-0.2	D1 0.3-0.5	D2 0.3-0.5	----
				Sampling date / time	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	14-Dec-2021 00:00	----
Compound	CAS Number	LOR	Unit		ES2145800-021	ES2145800-022	ES2145800-023	ES2145800-024	--------
					Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		100	100.0	109	85.2	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		119	139	138	106	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		65.5	75.5	73.9	61.6	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		100.0	100.0	98.1	94.6	----
2-Chlorophenol-D4	93951-73-6	0.5	%		98.6	98.9	97.9	93.9	----
2.4.6-Tribromophenol	118-79-6	0.5	%		85.9	84.2	86.6	84.7	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		101	102	100	98.1	----
Anthracene-d10	1719-06-8	0.5	%		107	105	104	102	----
4-Terphenyl-d14	1718-51-0	0.5	%		97.1	96.9	95.6	94.7	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		109	90.3	94.7	88.9	----
Toluene-D8	2037-26-5	0.2	%		108	95.5	97.9	92.9	----
4-Bromofluorobenzene	460-00-4	0.2	%		116	93.1	97.0	88.9	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	RINSATE	----	----	----	----
				Sampling date / time	14-Dec-2021 00:00	----	----	----	----
					ES2145800-025	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 201		**Fractio**	**s**						
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**114**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**112**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**108**	----	----	----	----

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	SS1 0.0-0.2 - 14-Dec-2021 00:00	A soil sample.
EA200: Description	SS2 0.0-0.2 - 14-Dec-2021 00:00	A soil sample.
EA200: Description	SS3 0.0-0.2 - 14-Dec-2021 00:00	A soil sample.
EA200: Description	SS4 0.0-0.2 - 14-Dec-2021 00:00	A soil sample containing one piece of asbestos cement sheeting approximately 3x2x1mm.
EA200: Description	SS5 0.0-0.2 - 14-Dec-2021 00:00	A soil sample.
EA200: Description	SS6 0.0-0.2 - 14-Dec-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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

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

Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2146288**	Page	: 1 of 8
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: Andrew Hills	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS02423.1 PROPOSED VISITOR INFORMATION CENTRE	Date Samples Received	: 17-Dec-2021 09:36
Order number	: ----	Date Analysis Commenced	: 20-Dec-2021
C-O-C number	: ----	Issue Date	: 04-Jan-2022 15:05
Sampler	: ----		
Site	: 17 DENISON STREET, GLOUCESTER		
Quote number	: EN/222		
No. of samples received	8		
No. of samples analysed	7		

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
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	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.

- EP075 (SIM): Where reported, 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.
- 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.
- 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.
- EG035: Positive Mercury result ES2146288 #2 has been confirmed by reanalysis.
- EP075(SIM): Particular sample required dilution due to sample matrix interferences. LOR values have been adjusted accordingly.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.

Analytical Results

Sub-Matrix: SLUDGE (Matrix: SOIL)			Sample ID	MW3	----	----	----	----
			Sampling date / time	16-Dec-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2146288-008	--------	--------	--------	--------
				Result	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**5**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**6**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**6**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**3**	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**20**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----

Analytical Results

Sub-Matrix: SLUDGE (Matrix: SOIL)				Sample ID	MW3	----	----	----	----
				Sampling date / time	16-Dec-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2146288-008	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**88.2**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**94.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**86.8**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**108**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**99.1**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**104**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.9**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**84.3**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**76.6**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	MW1	MW2	DW1	RINSATE2	TRIP SPIKE
				Sampling date / time	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00
					ES2146288-001	ES2146288-002	ES2146288-004	ES2146288-005	ES2146288-006
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		**0.010**	**0.007**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	**0.0006**	----	----	----
Chromium	7440-47-3	0.001	mg/L		**0.003**	**0.013**	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.009**	**0.183**	----	----	----
Lead	7439-92-1	0.001	mg/L		**0.010**	**0.031**	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.004**	**0.049**	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.029**	**0.765**	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	**0.0002**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		**3180**	**55.5**	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<12.5	<1.7	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<12.5	<1.7	----	----	----
Fluorene	86-73-7	1.0	µg/L		**39.7**	**3.3**	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		**39.6**	**5.8**	----	----	----
Anthracene	120-12-7	1.0	µg/L		<12.5	<1.7	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<12.5	<1.7	----	----	----
Pyrene	129-00-0	1.0	µg/L		<12.5	<1.7	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<12.5	<1.7	----	----	----
Chrysene	218-01-9	1.0	µg/L		<12.5	<1.7	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<12.5	<1.7	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<12.5	<1.7	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<12.5	<1.7	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<12.5	<1.7	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<12.5	<1.7	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<12.5	<1.7	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**3260**	**64.6**	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<6.2	<0.8	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		**106000**	**60**	**106000**	<20	----
C10 - C14 Fraction	----	50	µg/L		**251000**	**210**	**85300**	----	----
C15 - C28 Fraction	----	100	µg/L		**16500**	**1160**	**5700**	----	----
C29 - C36 Fraction	----	50	µg/L		**780**	**220**	**230**	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		**268000**	**1590**	**91200**	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	MW1	MW2	DW1	RINSATE2	TRIP SPIKE
				Sampling date / time	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00	16-Dec-2021 00:00
					ES2146288-001	ES2146288-002	ES2146288-004	ES2146288-005	ES2146288-006
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 201 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		111000	70	110000	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		44300	40	37600	<20	----
>C10 - C16 Fraction	----	100	µg/L		144000	210	48800	----	----
>C16 - C34 Fraction	----	100	µg/L		10600	1320	3640	----	----
>C34 - C40 Fraction	----	100	µg/L		310	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		155000	1530	52400	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		143000	210	48300	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		18800	2	18700	<1	14
Toluene	108-88-3	2	µg/L		23500	10	28800	<2	15
Ethylbenzene	100-41-4	2	µg/L		3990	3	4060	<2	14
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		14600	12	15000	<2	15
ortho-Xylene	95-47-6	2	µg/L		5780	6	5810	<2	15
^ Total Xylenes	----	2	µg/L		20400	18	20800	<2	30
^ Sum of BTEX	----	1	µg/L		66700	33	72400	<1	73
Naphthalene	91-20-3	5	µg/L		561	<5	531	<5	18
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		12.6	23.4	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		36.0	33.5	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		77.6	64.2	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		88.3	57.1	----	----	----
Anthracene-d10	1719-06-8	1.0	%		75.2	60.3	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		96.5	68.7	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		102	92.9	83.6	87.3	94.1
Toluene-D8	2037-26-5	2	%		104	106	103	93.5	107
4-Bromofluorobenzene	460-00-4	2	%		102	99.0	100	91.6	102

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TRIP BLANK	----	----	----	----
				Sampling date / time	16-Dec-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2146288-007	--------	--------	--------	--------	
				Result	----	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----	
Toluene	108-88-3	2	µg/L	<2	----	----	----	----	
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----	
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----	
^ **Total Xylenes**	----	2	µg/L	<2	----	----	----	----	
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----	
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%	**94.5**	----	----	----	----	
Toluene-D8	2037-26-5	2	%	**106**	----	----	----	----	
4-Bromofluorobenzene	460-00-4	2	%	**98.1**	----	----	----	----	

Surrogate Control Limits

Sub-Matrix: SLUDGE		Recovery Limits (%)	
Compound	CAS Number	Low	High
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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2201639**	Page	: 1 of 5
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: Andrew Hills	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS02423.1 PROPOSED VISITOR INFORMATION CENTRE	Date Samples Received	: 19-Jan-2022 12:30
Order number	: ----	Date Analysis Commenced	: 21-Jan-2022
C-O-C number	: ----	Issue Date	: 27-Jan-2022 13:36
Sampler	: ----		
Site	: 17 DENISON STREET, GLOUCESTER		
Quote number	: EN/222		
No. of samples received	1		
No. of samples analysed	1		

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
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney 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.

- EG035: LOR raised for Mercury due to sample matrix (High TSS).
- EP075 (SIM): Where reported, 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.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the 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.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW3	----	----	----	----
			Sampling date / time	18-Jan-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2201639-001	--------	--------	--------	--------
				Result	----	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.362**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	**0.0102**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	**4.18**	----	----	----	----
Copper	7440-50-8	0.001	mg/L	**4.82**	----	----	----	----
Lead	7439-92-1	0.001	mg/L	**5.49**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	**2.83**	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	**17.6**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0010	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.9	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW3	----	----	----	----
				Sampling date / time	18-Jan-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2201639-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 201		**Fractio**	**s**						
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**25.6**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**51.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**54.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**63.5**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**85.5**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**76.1**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**99.6**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**105**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**107**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Appendix C

Site History Documentation

ADVANCE LEGAL SEARCHERS PTY LIMITED

(ACN 147 943 842)
ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

Telephone: +612 9977 6713
Mobile: 0412 169 809
Email: search@alsearchers.com.au

11th June 2020

REGIONAL GEOTECHNICAL SOLUTIONS PTY LTD
44 Bent Street,
WINGHAM NSW 2429

Attention: Andrew Hills

RE: **17 Denison Street,**
Gloucester
RGS02423.1

Current Search

Folio Identifier 1/571352 (title attached)
DP 571352 (plan attached)
Dated 10th June, 2020
Registered Proprietor:
THE STATE OF NEW SOUTH WALES

Title Tree
Lot 1 DP 571352

Folio Identifier 1/571352

Certificate of Title Volume 12522 Folio 218

Certificate of Title Volume 11671 Folio 122

IVA 7387

Conveyance Book 2879 No. 207

Conveyance Book 2393 No. 472

Conveyance Book 2175 No. 456

Conveyance Book 2132 No. 501

Conveyance Book 881 No. 239

****

Summary of Proprietor(s)
Lot 1 DP 571352

Year	Proprietor(s)
	(Lot 1 DP 571352)
2019 – todate	The State of New South Wales
2019 – 2019	Alan Richard Nicholls *(Trustee of the bankrupt estate of Stephen Joh Griffin & Nerida Joy Griffin))*
2005 – 2019	Stephen John Griffin Nerida Joy Griffin
1988 – 2005	Gloucester Machinery Co. Pty Limited
	(Lot 1 DP 571352 – CTVol 12522 Fol 218)
1975 – 1988	Gloucester Machinery Co. Pty Limited
1974 – 1975	Ernest William Mussared, company director Alice May Mussared, wife
1974 – 1974	The Commercial Banking Company of Sydney Limited *(Mortgagors Ernest William Mussared, company director Alice May Mussared, his wife)*
	(Lot 2 DP 548664 – Area 1 Acre 1 Rood 19 ¼ Perches – CTVol 11671 Fol 122)
1971 – 1974	The Commercial Banking Company of Sydney Limited *(Mortgagors Ernest William Mussared, company director Alice May Mussared, wife)*
	(Part Lot 5 and Lot 6 Section 2 Town of Gloucester – Conv Bk 2879 No. 207)
1968 – 1968	Ernest William Mussared, company director Alice May Mussared, wife
	(Part Lot 5 and Lot 6 Section 2 Town of Gloucester, Parish of Gloucester – Conv Bk 2393 No. 472)
1956 – 1968	Gloucester Motors Pty Limited (in liquidation)
1955 – 1956	Mary Garland, widow
	(Part of Lot 5 and Lot 6 Section 2 Town of Gloucester – Conv Bk 2175 No. 456)
1951 – 1955	Sidney Garland, farmer Mary Garland, wife

Cont.

Cont.

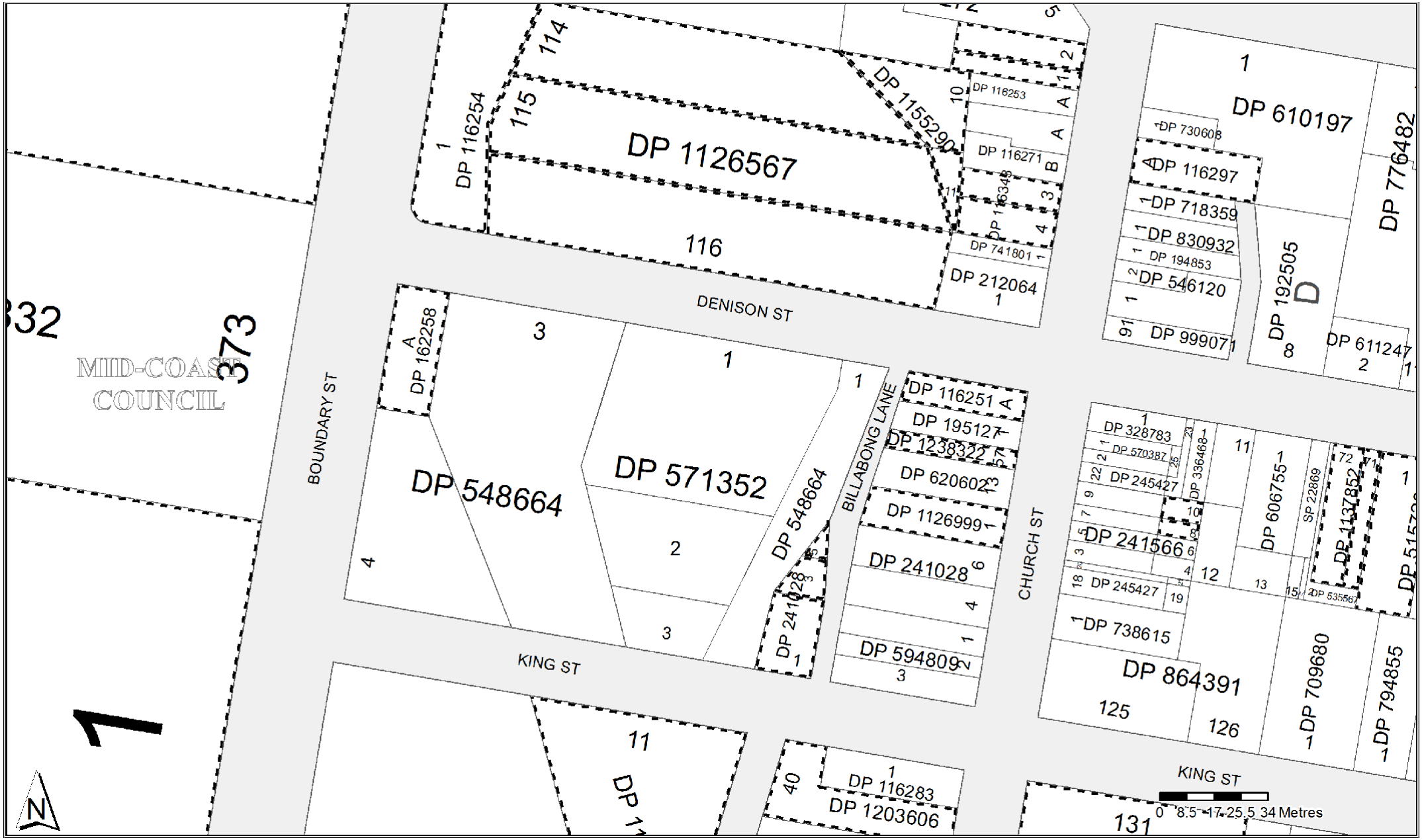
	(Lot 5 and Lot 6 Section 2 Town of Gloucester – Conv Bk 2132 No. 501)
1950 – 1951	Samuel James Ross Pryor, clerk Vera Emily Pryor, wife
1931 – 1950	Marion Josephine Green, widow Harry Joseph Green, estate
	(Part of Lot 5 and Lot 6 Section 2 Town of Gloucester – Conv Bk 881 No. 239)
1909 – 1931	Harry Joseph Green, farmer

****

Cadastral Records Enquiry Report : Lot 1 DP 571352

Ref : NOUSER

Locality : GLOUCESTER
Parish : GLOUCESTER
LGA : MID-COAST
County : GLOUCESTER



Report Generated 6:30:24 PM, 9 June, 2020

	Status	Surv/Comp	Purpose
DP116251			
Lot(s): A			
CA95025 - LOT A DP116251			
DP116254			
Lot(s): 1			
CA98791 - LOT 1 DP116254			
DP116272			
Lot(s): 1			
CA88372 - LOT 1 DP116272			
Lot(s): 2			
CA94830 - LOT 2 DP116272			
DP116297			
Lot(s): A			
CA109982 - LOT A DP116297			
DP116343			
Lot(s): 4			
CA94962 - LOT 4 DP116343			
Lot(s): 3			
CA88396 - LOT 3 DP116343			
DP162258			
Lot(s): A			
CA94730 - LOT A DP162258			
DP241028			
Lot(s): 1, 3, 5			
CA104767 - LOTS 1, 3 AND 5 DP241028			
DP241566			
Lot(s): 8			
CA98794 - LOT 8 DP241566			
Lot(s): 10			
CA123877 - LOT 10 DP241566			
DP515720			
Lot(s): 1			
CA94697 - LOT 1 DP515720			
DP564844			
Lot(s): 1			
DP1000659	REGISTERED	SURVEY	LEASE
DP842441			
Lot(s): 1			
DP1000659	REGISTERED	SURVEY	LEASE
DP1126567			
Lot(s): 114, 115, 116			
CA105596 - LOTS 114-116 DP1126567			
DP1126999			
Lot(s): 1			
DP1106029	HISTORICAL	COMPILATION	LIMITED FOLIO CREATION
CA103029 - LOT 3 DP1106029			
DP1137852			
Lot(s): 71, 72			
CA140574 - LOTS 71-72 DP1137852			
DP1155290			
Lot(s): 10, 11			
DP1128789	HISTORICAL	COMPILATION	LIMITED FOLIO CREATION
CA111118 - LOTS 117-118 DP1128789			
PA82865 - LOTS 10-11 DP1155290			
DP1176152			
Lot(s): 11			
DP547483	HISTORICAL	SURVEY	SUBDIVISION

	Status	Surv/Comp	Purpose
DP1190966			
Lot(s): 131			
DP116290	HISTORICAL	COMPILATION	DEPARTMENTAL
DP1057688	HISTORICAL	COMPILATION	LIMITED FOLIO CREATION
DP1103429	HISTORICAL	SURVEY	REDEFINITION
CA88584 - LOT 13 DP1057688			
CA94649 - LOT 1 DP116290			
OFFICIAL SEARCH 36092 - LOT 1 DP116290			
DP1203606			
Lot(s): 40			
DP164539	HISTORICAL	SURVEY	UNRESEARCHED
DP547482	HISTORICAL	SURVEY	SUBDIVISION
DP1222701			
Lot(s): 123			
DP784009	HISTORICAL	COMPILATION	DEPARTMENTAL
DP1238322			
Lot(s): 57			
DP195127	HISTORICAL	COMPILATION	DEPARTMENTAL

Plan	Surv/Comp	Purpose
DP116251	COMPILATION	DEPARTMENTAL
DP116253	COMPILATION	DEPARTMENTAL
DP116254	COMPILATION	DEPARTMENTAL
DP116271	COMPILATION	DEPARTMENTAL
DP116272	COMPILATION	DEPARTMENTAL
DP116283	COMPILATION	DEPARTMENTAL
DP116297	COMPILATION	DEPARTMENTAL
DP116303	COMPILATION	DEPARTMENTAL
DP116343	COMPILATION	DEPARTMENTAL
DP162258	SURVEY	UNRESEARCHED
DP192505	COMPILATION	UNRESEARCHED
DP194853	COMPILATION	DEPARTMENTAL
DP195127	COMPILATION	DEPARTMENTAL
DP212064	SURVEY	OLD SYSTEM CONVERSION
DP241028	SURVEY	SUBDIVISION
DP241566	SURVEY	SUBDIVISION
DP245427	SURVEY	SUBDIVISION
DP328783	COMPILATION	UNRESEARCHED
DP336468	COMPILATION	UNRESEARCHED
DP515720	SURVEY	SUBDIVISION
DP535567	SURVEY	SUBDIVISION
DP546120	SURVEY	SUBDIVISION
DP546401	SURVEY	SUBDIVISION
DP546808	SURVEY	SUBDIVISION
DP547482	SURVEY	SUBDIVISION
DP547483	SURVEY	SUBDIVISION
DP548664	SURVEY	SUBDIVISION
DP564844	SURVEY	RESUMPTION OR ACQUISITION
DP570387	SURVEY	SUBDIVISION
DP571352	COMPILATION	SUBDIVISION
DP594809	SURVEY	SUBDIVISION
DP606755	COMPILATION	SUBDIVISION
DP610197	SURVEY	OLD SYSTEM CONVERSION
DP611247	COMPILATION	SUBDIVISION
DP620602	SURVEY	OLD SYSTEM CONVERSION
DP709680	SURVEY	OLD SYSTEM CONVERSION
DP718359	COMPILATION	DEPARTMENTAL
DP730608	COMPILATION	DEPARTMENTAL
DP738615	COMPILATION	DEPARTMENTAL
DP741801	COMPILATION	DEPARTMENTAL
DP776482	SURVEY	SUBDIVISION
DP794855	COMPILATION	DEPARTMENTAL
DP830932	SURVEY	DELIMITATION
DP842441	COMPILATION	PRIMARY APPLN NON SUBDIVISION
DP864391	SURVEY	SUBDIVISION
DP999071	COMPILATION	DEPARTMENTAL
DP1001832	COMPILATION	LIMITED FOLIO CREATION
DP1126567	COMPILATION	LIMITED FOLIO CREATION
DP1126999	SURVEY	REDEFINITION
DP1137852	COMPILATION	LIMITED FOLIO CREATION
DP1155290	SURVEY	REDEFINITION
DP1155290	UNRESEARCHED	REDEFINITION
DP1176152	SURVEY	SUBDIVISION
DP1190966	SURVEY	CONSOLIDATION
DP1190966	UNRESEARCHED	CONSOLIDATION
DP1203606	COMPILATION	CONSOLIDATION
DP1222701	SURVEY	CONSOLIDATION
DP1238322	SURVEY	REDEFINITION
SP22869	COMPILATION	STRATA PLAN

Ref:ALS /Src:T

NI.:W SOUTH WAI.ES

CATE OF TITLE

IIJRTY AC!', 1900, us llmcndcd.

1111I Ill/ 11111111

IVA Ne. 7387

Vol **1167 l** Fol 122

Sdi tion iss11ed 23·· 9 -19 7.1

CANCELLED ffil

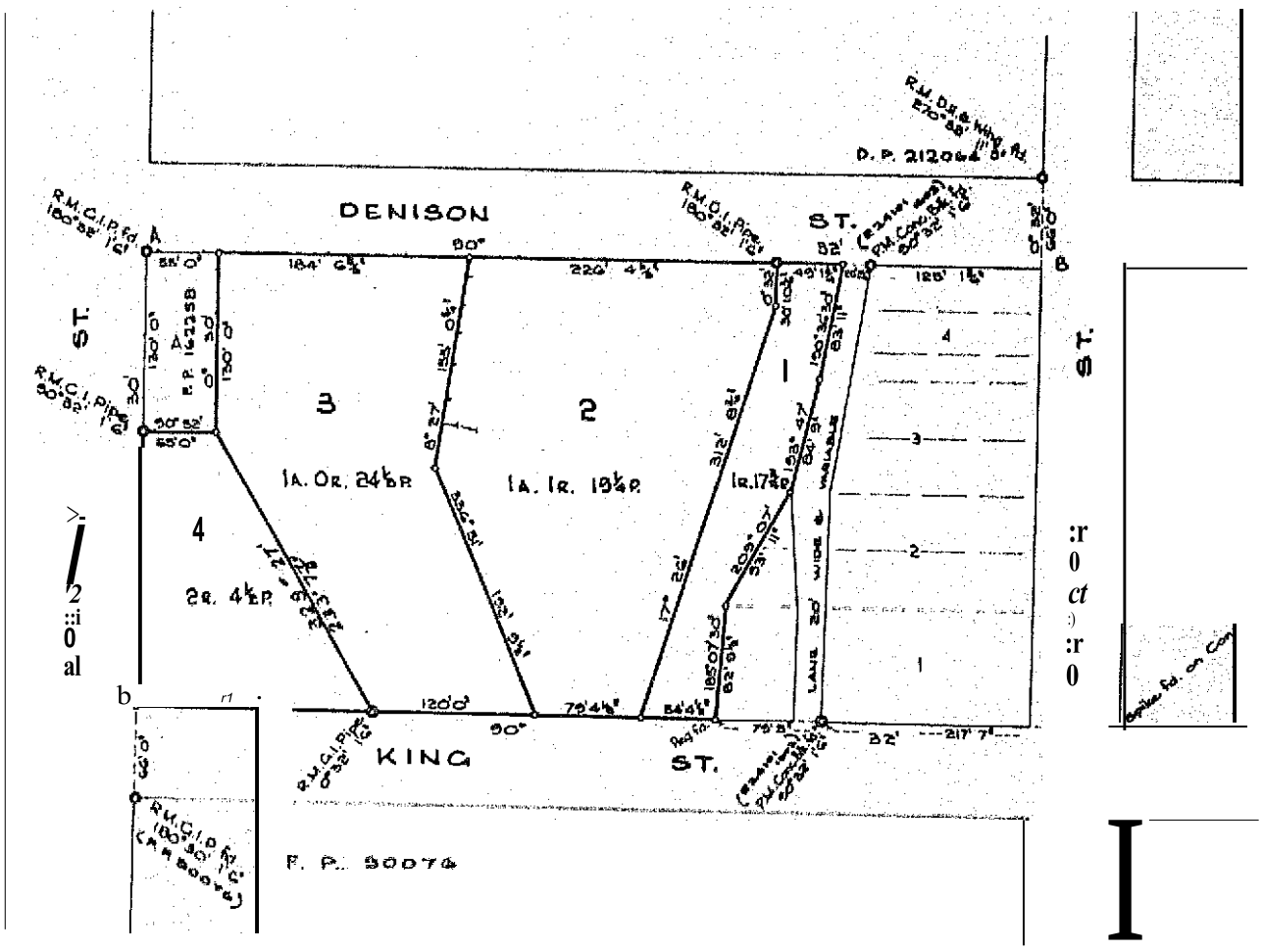
122

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 Sche_dule.**

Witness

Registrar General.

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 548664 at Gloucester in the Shire of Gloucester Parish of Gloucestur and Cuur1ty of Gloucester belng part of 464640 ·acres g anted to Australian Agricultural Company on 20-11-1847.

FIRST SCHEDULE

THE COMMSRCIAL BANKING COMPANY OF SYDNEY LIMITED.

S1,coND SCliE!JULE:

612'/

1. Reservations and conditions, if any contained in the Crown Grant above referred ·to.
2. CAUTION No.1'1396600 ?pursuant to Section 28J Real_ Property Act, 1900.
3. caveat No.M396601(by the Registrar General.

Registrar General

NOTE: ENTRIES RULED THRO!JGH AtiD AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

RG 2/62

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

V. C N. RLICHT, GC'•I""""I:"T 1"1'11.. TUt

OP,57i3

FIRST SCHIWULE ,(continued)

REGISTERED PROPRIETOR	INSTRUMENT NUMBER	DATE	ENTERED	Signature of Registrar-General
T.li.rs- de,,d ,s mr.cellNl as. --- h-a- -e- is-. -., ,,.;t-_: f",ir-rots in				
-CO!·t:Tfi::ntCS ---()[·rrrt:tc				
}?. f?. -rfuf:....... P!an No ......::'. . - - ....a.3 i)llowH :•				
l_,_o_L_s_.._. _..'.'_1,t- - .:..... Vol, . .?-. :c?: ..-Ji"'r il ::!:.1,?, :b.;_;,_9 l'P,<rpi•t-1 iv Pl v				
!S Y				
i:: .t)i				
BEGJ.S'J'.JUJLGE.S.BR.41,.----				

SECOND SCHEDULE (continued)

INSTRUMENT NUMBER	DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION

NOTE: ENTRIES RUL.Efl THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRARsGENERAL ARE CANCELLED

Ref:ALS /Src:T

[redacted]·ICATE OF TITLE

NE\\ SOI.JTH \\ALES

— — — — — — PROPERn' ACT. 1900

Vol.......12..5.2.2.. Fol.....41.8.........

IVA No.7387

ricr Title Val.11671 ?al.:2

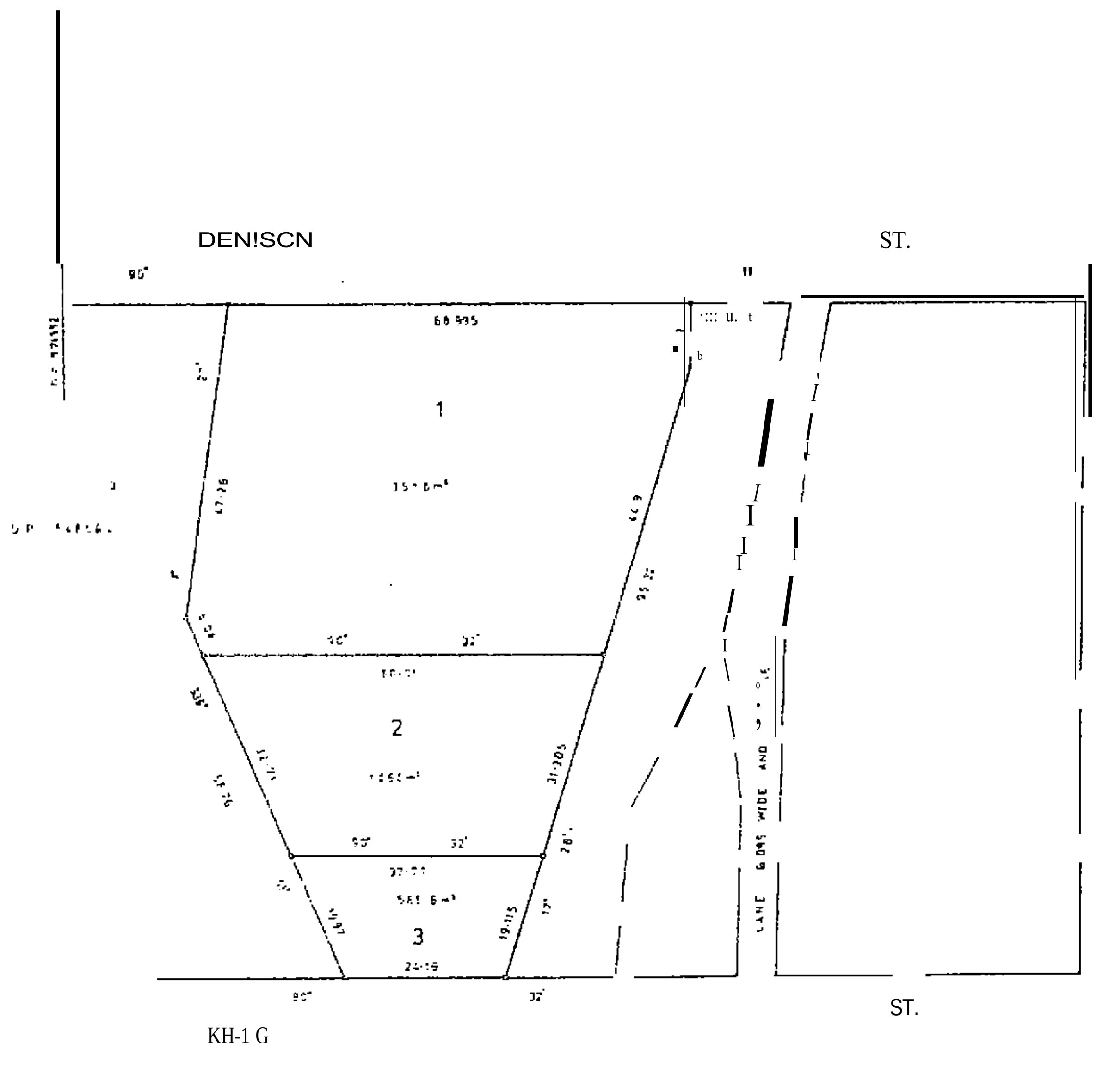
Edition issued 28-8-1974

I certify that the person described in the First Schedule i5 the registered proprietor of the undermention estate _i11.'11_e _land .Vw'.ithin described subject nevertheless to such exceptions encumbrances and interests as are shO\vn in the Second Schedule.

Registrar General.

PLAN SHOV.1NG LOCATION OF LAND

LENGTHS ARE I METRES



ESTATE :.1:0 LA.ND REFERRED TO

::state in Fee Simple in l..o-c 1 ir De;;o:si..ted ?lan 571352 a.t Gloucester in the Shire of Gloucester P2.rish of Glou-cester an.d County of Gloucester being part of 1880.3 square }::.ilometres granted to P.us =:::.lie.:-: ,,.gricul tural Co:npany on 20-11-1847.

?IR.ST SCJ-iEDl.iLE

~~CONMERCIAL ... OF SYDNEY LIMITED.~~

SSCONDSCHEDULC:

1. Reservations and conditions, if a:1y, contained in the Crown Grant above referred to".
2. CAUTION No.M396600 pursuc.r.t to !;'ction 2BJRsaal Property Act, 1900. 8- 8- - /C/ 7</

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

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

INY.TI?IIMENT

NATURE | JiUI,WEI | DATF. | ENTERED | Si 11noturc of R0nisIrar G-onarol

QC)

_ ,ru._o_uc'1.s.ter Machinery _Co. P_ty. Limi_ted,. Transfe_1 p1_11_735

SECOND SCHEDULE (continued)

NATURE	L S TRUMEIfT NUMBER	DATE	PARTICULARS	ENTERED	Signcture of Re1i slror Genorol	CANCELLATION
M			_I-!o_:i,_ m,,ge_____]?1Jj_731:,/I .. 12,--1_1-13].4, _:!;9_'.\'):le_CoJ]llile_i-:9;i.aj, Il ing Company of Sydney I,irnite_d_•. . _J 3=-1 =1975., ,,,			
			_I-1,i;i;_i;@g§_: _ :_!'E1.737:·...,:..•• 9.,:::-9_:-_19.H-_ J'2..En:i?. i..!"Jl.U"!'!,J! ""!!""<'i o_f QlQ:,i_ge!lter,\J_ompany:Dir_ectQ:i;:_:l. !1:L_ ct, g,:, -- _ :n.7_:,_:L0			J.c..... --

· NOTE: ENTRIES RULED T H ROUGH AND AUTHENTICATED BY TH E SEAL OF THE REGISTRAR GEN.ERAL ARE CANCELLED

Fonn: llR
Release: 4•3

REQUEST

New South Wales
Real Property Act 1900

AP27881?R

PRIVACY NOTE: Section 318 of theRea.lProperty Act1900 (RP Act)authorises the by this form for the establishment c111d maintenance of the Real Property Ac1 the Register is made available to any person for search upon payment of a fee, if any.

All Statutory Declarations and evidence that are lodged in support of land dealings will be treated as publicly accessible and will be disclosed to persons upon request.

(A) **STAMP DUTY** If applicable. Revenue NSW use only

(B) **TORRENS TITLE** 1 571352

(C) **REGISTERED DEALING** Number | Torrens Title

(D) **LODGED BY**

Document Collection	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
Bo	Corsair Lawyers 7/16, 74-78 The Corso MANLY NSW 209- 4St 9c1S ·,Q-1 q11111s.@coc,.e.;1i•;wprS..co.r,1'1.Q(I	R
	Reference:ID : ARN : CLC : KM: 7376	

(E) **APPLICANT** ALAN RICHARD NICHOLLS

(F) **NATURE OF REQUEST** Disclaimer of onerous property pursuant to sl33(1) of t_e B nk!up cy Act 1966 (Cth)

(G) **TEXT OF REQUEST**

On 11 November 2014, the land in item B vested in the Applicant pursuant to s58(1) of the Bankruptcy Act 1966 (Cth)in his capacity as trustee of the bankrupt estate of Nerida Joy Griffin, a registered proprietor. TheApplicant disclaimed that interest pursuant to sl33(1) of the Bankruptcy Act 1966 (Cth) in accordance with the attached notice.

DATE _27/ /20 9

(H)

Certified correct for the purposes of the Real Property Act 1900 on behalfofthe applicant by the person whose **sig,atwe appom below.**

Signature:

Signatory's name: Angus Charles Blair
Signatory's capacity: solicito-r

(I) *This section is to be completed where a notice of sale is required and the relevant data has been forwarded through eNOS.*

The applicant certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No.I -- Full name: Signature:

** sII 7 RP Act requires that you must have known the signatory fo more than 12 months or have sighted identifying documentation.*

NICHOLLS ltd CO.
CHARTERED ACCOUNTANTS
For Business Reconstruction and Insolvency
www.nichollsco.com.au

A. R. Nicholls B.Com, C.A
Trustee in Bankruptcy

Please reply to:
Nicholls & Co
Suite 6,459 Peel Street
Tamworth NSW 2340

PO Box 271
Tamworth NSW 2340
DX6127. TAMWORTH

Phone: 1300 676 998
Facsimile: 02 6766 9263
tamworth@nicholsco.com.au
www.nicholsco.com.au

Our Ref: RN:SLC:KM:7376/87
Your Ref:

15 April 2018

Land Titles Office
GPO Box 15
SYDNEY NSW 2001

DISCLAIMER OF ONEROUS PROPERTY

Dear Sir/Madam

BANKRUPT ESTATES OF: **STEPHEN JOHN GRIFFIN NSW 5035/14/5** & **NERIDA JOY GRIFFIN NSW 5202/14/2**

DISCLAIMED PROPERTY: **19 Denison Street, GLOUCESTER NSW 2422**

I refer to the above listed bankrupt estates and advise that effective 31 October 2014 and 11 November respectively I, Alan Richard Nicholls, was appointed Trustee of both estates. Attached are copies of my Certificates of Appointment for your attention.

I also refer to the property of the bankrupt being the property situated at 19 Denison Street, Gloucester in the state of New South Wales and being the whole of the land referred to in Volume 571352 and Folio 1 in the land registration district of Gloucester and described as Lot I on Deposited Plan 571352. I hereby disclaim my interest in the property pursuant to section 133(3) of the *Bankruptcy Act 1966*, as the property is onerous there being no benefit to creditors of the bankrupt estates and in my opinion is not readily saleable. Attached is Form 11R pertaining to same.

Should you have any queries in relation to this matter please contact Kendyl Marchant (kendyl.marchant@nichollsco.com.au)of this office in the first instance.

Yours faithfully

AR NICHOLLS
TRUSTEE

Encl: 2 x Certificates of Appo;ntment
2 x Form JJR

2/2

Fonn: llR
Release: 4 •3

REQUEST

New South Wales
Real Property Act 1900

1111111111111 UI 111
AP278823W

PRIVACY NOTE: Section 31BoftheReal Property Act1900 (RPAct)authorises the F by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

All Statutory Declarations and evidence that are lodged in support of land dealings will be treated as publicly accessible and will be disclosed to persons upon request.

(A) **STAMP DUTY** — If applicable. Revenue NSW use only

(B) **TORRENS TITLE** — 1 571352

(C) **REGISTERED DEALING** — Numbe; — Torrens Title

(D) **LODGED BY**

Document Collection	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
■	Corsair Lawyers 7/16, 74-78 The Corso MANLY NSW 209(15"°	R
■	Reference:lo : ARN:CLC:KM:7376	

(E) **APPLICANT** — ALAN RICHARD NICHOLLS

(F) **NATURE OF REQUEST** — Disclaimer of onerous pr?perty pursuant to s133(1) of the Bankruptcy Act 1966 (Cth)

(G) **TEXT OF REQUEST**

On 31 October 2014, the land in item B vested in the Applicant pursuant to s58(1) of the Bankruptcy Act 1966 (Cth)in his capacity as trustee of the bankrupt estate of Stephen John Griffin, a registered proprieto . The Applicant disclaimed that interest pursuant to s133(1) of the Bankruptcy Act 1966 (Cth) in accordance with the attached notice.

DATE 27/5/2019

(H)

Certified correct for the purposes of the Real Property Act 1900 on behalf of the applicant by the person whose signature appears below.

Signature:

Signatory's name: Angus Charles Blair
Signatory's capacity: solicitor

(I) *This section is to be completed where a notice of sale is required and the relevant data has been forwarded through eNOS.*

The applicant certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. Full name: . Signature:

** sll 7 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

NICHOLLS&: CO.
CHARTERED ACCOUNTANTS
For Business Reconstruction and Insolvency
www.nichollsco.com.au

A. R. Nicholls B.Com, C.A.
Trustee in Bankruptcy

Pl as reply to:
Nicholls & Co '
Suite 6,459 Peel Street
TDmworth NSW 2340

PO Box 271
Tamworth NSW 2340
DX6127.TAMWORTH

Phone: 1300 676 998
Facsimile: 02 6766 9263
taJ\lworth@nicho!lsco com.au
www.nichollsco.com,a11

Our Ref:ti:ARN:SI.C:KM:7376187
Your Ref:

15 April 2018

Land Titles Office
GPO Box 15
SYDNEY NSW 200I

DISCLAIMER OF ONEROUS PROPERTY

Dear Sir/Madam

BANKRUPT ESTATES OF: **STEPHEN JOHN GRIFFIN NSW 5035/14/5** & **NERIDA JOY GRIFFIN NSW 5202/14/2**

DISCLAIMED PROPERTY: **19 Denison Street, GLOUCESTER NSW 2422**

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Should you have any queries in relation to this matter please contact Kendyl Marchant (kendyl.marchant@nichollsco.com.au) of this office in the first instance.

Yours faithfully
NICHOLLS & CO -

AR NICHOLLS
TRUSTEE

Encl: 2 x Certificates of Appo;ntment
2 x Form 1 JR

SERVICING ALL STATES AND TERRITORIES OF AUSTRALIA

Signatures and seals

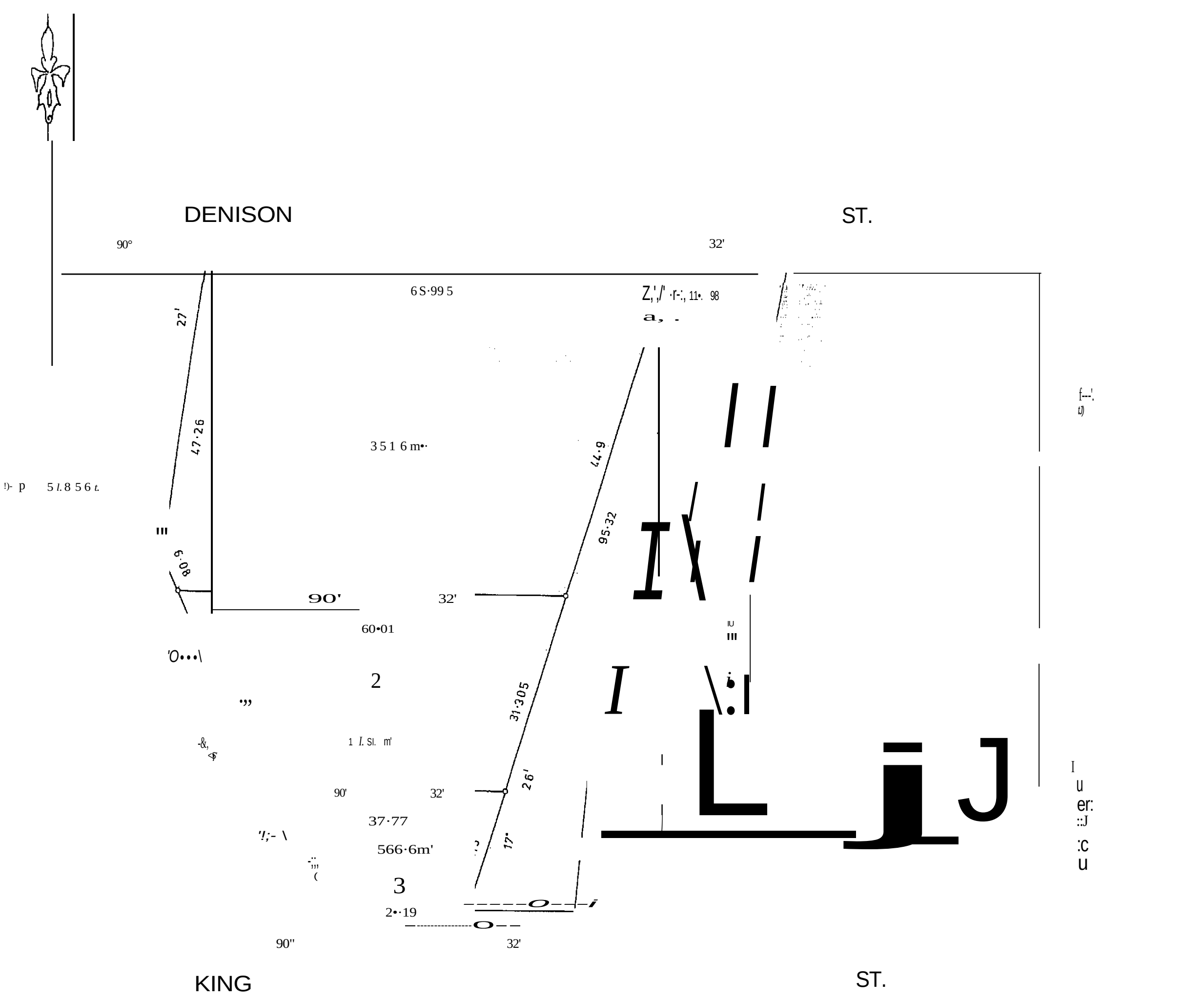
Signatures and seals only.

'174-;?----

SHIRE PRESIDENT

,/fi.iE ------

SHIRE CLERK



Acolstered: f//1:JI

C.A. No 198/74- OF 12-1-1974

Title System: TORRENS

Purpose: SUBDIVISION

LestPlan: D.P. 541664

PLAN OF SUBDIVISION OF

LOT 2 D.P. 538661

Reduction Ratio 1: 500

Lengths are in metres.

Shire: GLOUCESTER

Locality: GLOUCESTER

Parish: GLOUCESTER

County: GLOUCESTER

(Delete if inapplicable)

FREDERICK HIRSERT ... of 33 AVON ST. GLOUCESTER

a surveyor registered under the Surveyors Act, 1929, ...

Surveyor registered under Surveyors 929, as amended ...

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user:

Council Clerk's Certificate

... hava bdon compli11d with by ths appllcant ...

M.P.O.

I, Jack Hayward Watson, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 20th day of August, 1974.

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
10/6/2020 12:40PM

FOLIO: 1/571352

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 12522 FOL 218

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
8/8/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
28/1/2005	AB245923	REQUEST	
7/7/2005	AB610201	DISCHARGE OF MORTGAGE	
7/7/2005	AB610202	TRANSFER	EDITION 1
9/12/2010	AF932822	MORTGAGE	EDITION 2
14/8/2013	AH946467	CAVEAT	
24/11/2014	AJ52463	CAVEAT	
28/11/2014	AJ70591	CAVEAT	
4/12/2014	AJ82345	WRIT	
31/3/2015	AJ373945	CAVEAT	
5/12/2016	AK976141	DEPARTMENTAL DEALING	
2/11/2017	AM856084	DISCHARGE OF MORTGAGE	EDITION 3
14/11/2019	AP547184	WITHDRAWAL OF CAVEAT	
14/11/2019	AP547185	WITHDRAWAL OF CAVEAT	
14/11/2019	AP278817	REQUEST	
14/11/2019	AP278823	REQUEST	

*** END OF SEARCH ***

advlegs PRINTED ON 10/6/2020

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/571352

SEARCH DATE	TIME	EDITION NO	DATE
10/6/2020	12:39 PM	3	2/11/2017

LAND

LOT 1 IN DEPOSITED PLAN 571352
AT GLOUCESTER
LOCAL GOVERNMENT AREA MID-COAST
PARISH OF GLOUCESTER COUNTY OF GLOUCESTER
TITLE DIAGRAM DP571352

FIRST SCHEDULE

THE STATE OF NEW SOUTH WALES (R AP278823)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 10/6/2020

List the dangerous goods that will be stored and/or processed on these premises (refer to Guide GDGOI). Copy this page and attach additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
	Underground Tank	3	48000 Litres

UN Number	Proper Shipping Name	Class	PG (I, 11, 111)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1203	Petrol	S	ii		3i.fG'	4500	-L-
1203	Petrol		II		'!1-e-	4500	{J
-	Diesel	--			-	12000	
1203	Petrol	7	II		3'-1€	27000	L-

Deliver together 1270

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, ifo	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

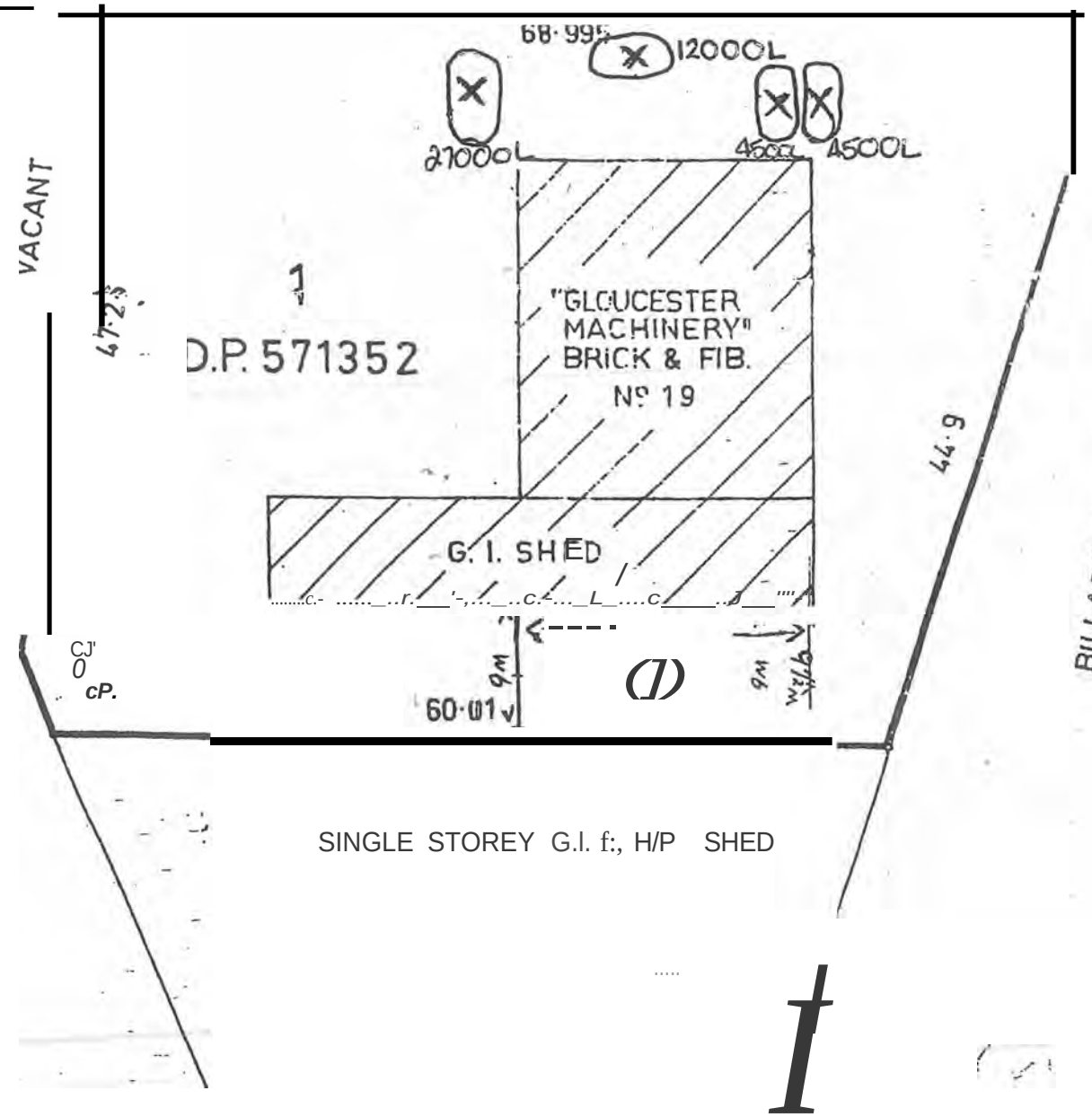
UN Number	Proper Shipping Name	Class	PG (I, II, III)'	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

NOll-rH

DENISON STREET



SINGLE STOREY G.I. f:, H/P SHED

N.8. STAR PICKETS PLACED.

AT ALL SIX CORNERS.

THIS IS THE 01AGIIAM ANNEX!:!) TOM

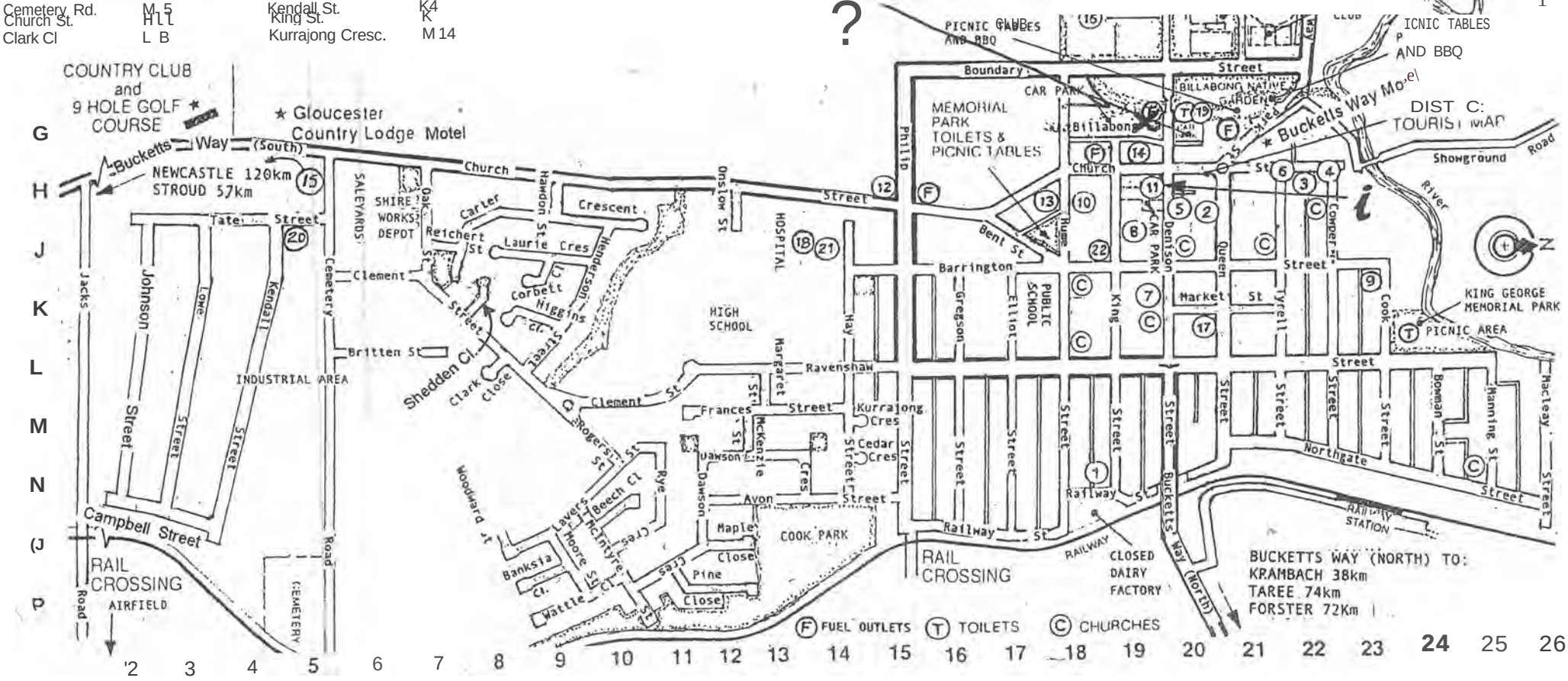
REF: JC:RC:GL547

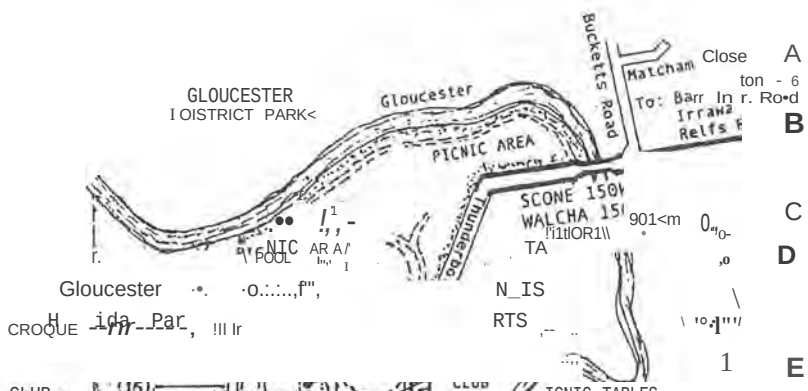
SURVEYOR REGISTERED UNDER TH
ACT, 1929, AS AMENDE

• **LAND, MINING** & ENGINEERING SURVEYING • ROAD & DRAINAGE DESIGN •
• LANO DEVELOPMENT & FEASIBILITY CONSULTANTS •
• 7 CANBERRA STREET, CHARLESTOWN. 2290 •

TOWN STREET DIRECTORY

STREET		STREET		STREET		STREET	
	N 13	Clement St	K 7	Laurie St.	J 9	Pine Cl.	p 12
Avon St.		Cook St.	M 23	Lavers St.	0 9	Queen St.	K 21
Banksia Cl.	0 9			Lowe St.	K 3	Railway St.	0 17
Barrington St.	J 20	Corbett Cl.	J 9	Mcintyre St.	0 10	Ravenshaw St.	l19
Beech Cl.	N 10	Cowper St	K22	McKenzie St.	M 12	Reichert St.	J 7
Bent St.	J 17	Dawson Cresc.	N 13	Macleay St.	M 26	Rogers St.	M 9
Billabong Lne.	G 19	Denison St.	J 20	Manning St.	M 25	Rye St.	N 11
Boundary St.	F 18	Elliot St.	M 17	Maple 0.	0.12	Shedden St.	K 8
Bowman St.	M 24	Frances St.	Ml3	Margaret St.	L13	Showground Rd.	D 26
Britten St.	L 6	Gregson St.	M 16	Market St.	K 21	Tate St.	H4
aucketts Rd.	B 25	Hawdon St.	H 9	Matcham Cl.	A 25	Thunderbolts Way	D 23
Bucketts Way 5th.	H 1	Hay 5t.	K 14	Moore St.	O 9	Tyrell St.	K 21
Bucketts Way Nth.	p 20	Hendersen St.	J 9	Northgate St.	N 23	Wattle Cl.	p 9
Campbell St.	N 3	Higgins Cl.	K 9 K 18	Oak St.	H 7	Woodward St.	0 8
Carter Cresc.	H B	Hume St.		Onslow St.	H 12		
Cedar Cresc.	N 14	JackSi Rd.	L 1	Par!< St.	G 21		
		Johnson St.	L2	Philip St.	K 15		
Cemetery Rd.	M 5	Kendall St.	K4				
Church St.	H LL	King St.	K				
Clark Cl	L B	Kurrajong Cresc.	M 14				





WorkCover New South Wales, 400 Kent Street, Sydney 2000. Tel: 9370 5000 Fax: 9370 5999 ALL MAIL TO G.P.O. BOX 5364 SYDNEY 2001

WORK(OVER
NEW SOUTH WALES

Licence No. 35/010782

APPLICATION FOR RENEWAL

OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/010782 to 9/04/2002. I confirm that all the licence details shown below are correct (amend if necessary).

6th April 2001.

(Date signed)

for: GLOUCESTt:."H IV!ACHiNERV CO P!L

*THIS **SIGNED** DECLARATION SHOULD BE **RETURNED TO: (please do not fax)***

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 30 March 2001

Licence Number 35/010782 **Expiry Date** 9/04/2001

Licensee GLOUCESTER MACHINERY CO P/L ACN 001 205 698 ABN 59, 001, 205, 698

DATA
10 MAY 2001
ENTERED

Postal Address: BOX 7 PO GLOUCESTER NSW 2422

Licensee Contact BILL MUSSARED Ph. 0265 581510 Fax. 0265 582119

Premises Licensed to Keep Dangerous Goods
GLOUCESTER MACHINERY CO P/L
19 DENISON ST GLOUCESTER 2422

Nature of Site AUTOMOTIVE FUEL RETAILING

Major Supplier of Dangerotis Goods VARIOUS

Emergency Contact for this Site BILL MUSSARED Ph. 0265 581510

Site staffing 9 HRS 5 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot ...-	Qty
1	**UNDERGROUND TANK**	**Class 3**	**4600 L**
	UN 1203 PETROL		4590 L
3	**UNDERGROUND TANK**	**Class 3**	**12000 L**
	UN 1203 PETROL		12000 L
4	**UNDERGROUND TANK**	**Class 3**	**27600 L**
	UN 1203 PETROL		27600 L

Site Sketch

Please carefully read the instructions in Part B of the guide before sketching the site.

PART C

CHEMICAL STORAGE

35/010782

Complete 1 section per depot

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot number	Type of depot	Class	Licensed maximum storage capacity
J	Underground Fuel storage	3.	60.000 litres.

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Uniteg. L,kg,m³
1203	B.P. Australia Ltd, Petrol	3	II	3A-I	PETROL	5000.	

Depot number	Type of depot	Class	Licensed maximum storage capacity
)	U/c>- rank,	":<3	cf Goo Jf

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Produ:i;:t or common name	Typical quantity	Uniteg. L,kg, m³
tl.D3	Ptltrrl		1I	3A-1	Et-ru-	l/S'CfD	

Depot number	Type of depot	Class	Licensed maximum storage capacity
2_	U/<> {Qv)I{_	3	C/-b OD If-

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Prodt:1eror common name	Typical quantity	Uniteg. L,kg,m³
!20)	Pttrtr\			3/i-(	e-,·v:e)		
					[?}(Q,M.f° t-		

Depot number	Type of depot	Class	Licensed maximum storage capacity
3	V{G 1 OJ;)k,	3	12-000 J.:/

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Uniteg. L,kg,m³
(21)?	P.	b	.!I	3 rt1	u.(\ k Q d:/2.(,t .		

Complete 1 section per depot

If you have more depots than the space provided, photocopy sufficient shee s irst.

Depot number	Type of depot	Class	Licensed maximum storage capacity
4	U/_G T Qni.c,,	3	/-.r 6 OO ..&,-.

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Uniteg, L,kg,m³
/1.[&	p	-3	Tr	3 A,	, £– -		

Depot number	Type of depot	Class	Licensed maximum storage capacity

UN number	Shipping name	Pkg. Class	Pkg. Group	Pkg. EPG	Product or common name	Typical quantity	Uniteg. L,kg,m³

Page 1 · Qrr · **INFLAMMABLE LIQUID A<rT, 1915 (AS AMENDED)**

Application for' Registration of Premises oi" Store Licence u der Division or for the transfer alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous· Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

EXPLANATORY

Inflammable Liquid-

Mineral. Oil-includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.
MJoergl Spirit-includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods-

Class 1-acetal, acetaldehyde, acetone, acrolein, amyl mercaptan, butyl acetate, butyl mercaptan, butyl propionate, crotonaldehyde, dichloro-ethylene, diethylketone, dioxane, diethylamine, dimethyl hydrozine, dipropylamine, divinyl ether, dipropyl ether, ethyl acetate, ethyl acrylate, ethyl chloride, ethyl ether, dichloroethane (ethylene dichloride), ethyl mercaptan, ethyl methacrylate, ethyl methyl ether, ethyl propyl ether, ethyl propionate, methyl propyl ketone, methyl acetate, methyl acrylate, methylal, methyl ethyl ether, methyl ethyl ketone, methyl methacrylate, methyl vinyl ketone, methyl vinyl acetate, piperidine, propanal, propyl acetate, propylamine, propylene oxide, pyridine, tetrahydrofuran, thiophene; triethylamine, valeraldehyde, vinyl acetate, vinyl ally! ether, vinyl butyl ether, vinyl butyrate, vinyl cyanide (acrylonitrile), vinylidene chloride, vinyl ethyl ether, vinyl propyl ether, vinyl propionate, any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit manufactured products, containing organic solvents, having a true flashing point of less than 73 degrees Fahrenheit.

Class 2-acetic acid, acetyl acetone, acetic anhydride, ally! alcohol, amyl acetate, amyl alcohol, butyl alcohol, butyl methacrylate, chlorobenzene, cyclohexanone, dibutyl ether, dibutyl ketone, dipentene, epichlorohydrin, ethanol (ethyl alcohol), ethyl benzene, ethylene diamine, furfural, mesityl oxide, methyl alcohol, methyl amyl ketone, methyl butyl ketone, pine oil (having a flashing point below 150° F), propyl benzene, propanol, vegetable turpentine, vinyl benzene (styrene monomer), any liquid containing more than 50 per centum ethyl alcohol, manufactured products, containing organic solvents, having a true flashing point of 73 degrees Fahrenheit and above but not exceeding 150 degrees Fahrenheit.

Class 3-nitro-cellulose moistened with an alcohol, ilitro-cellulose product.

Class 4-compressed or dissolved acetylene contained in a porous substance.

Cla s 5 (A)-liquefied inflammable gases (liquefied petroleum gas, vinyl chloride ,ethylene chloride, ethylene oxide, butadine, methylamine, dimethylamine, and trimethylamine).

Class 9-carbon, disulphide, ethyl nitrite.

DIRECTIONS

Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Sydney, and must be accompanied by the prescribed fee, as set out in Regulation 7.

I. Name of occupier including full Christian names .,;fpr,{p d /,"

EW Am MUSSARED OWNERS
GLOUCESTER MACHINERY Co. PTY. Ltd
MOTOR GARAGE S· XV1 c- SFrl7 _/t_,,,/

2. Occupation

3. Locality of the premises in which the depot or depots are situated

No. or Name F':: 6'/oure.r{pJ /J1r.d1n.P.::f ..('!. /J/J. /4f&(
Street ./. 1 1)I=AiJSo N S r.
Town At.oc.ut:'S" Tc'&:
.il-1-'(nor
Postcode 2427

4. Nature of premises (Dwelling, Garage, Store, etc.) \6\ lt

5. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time

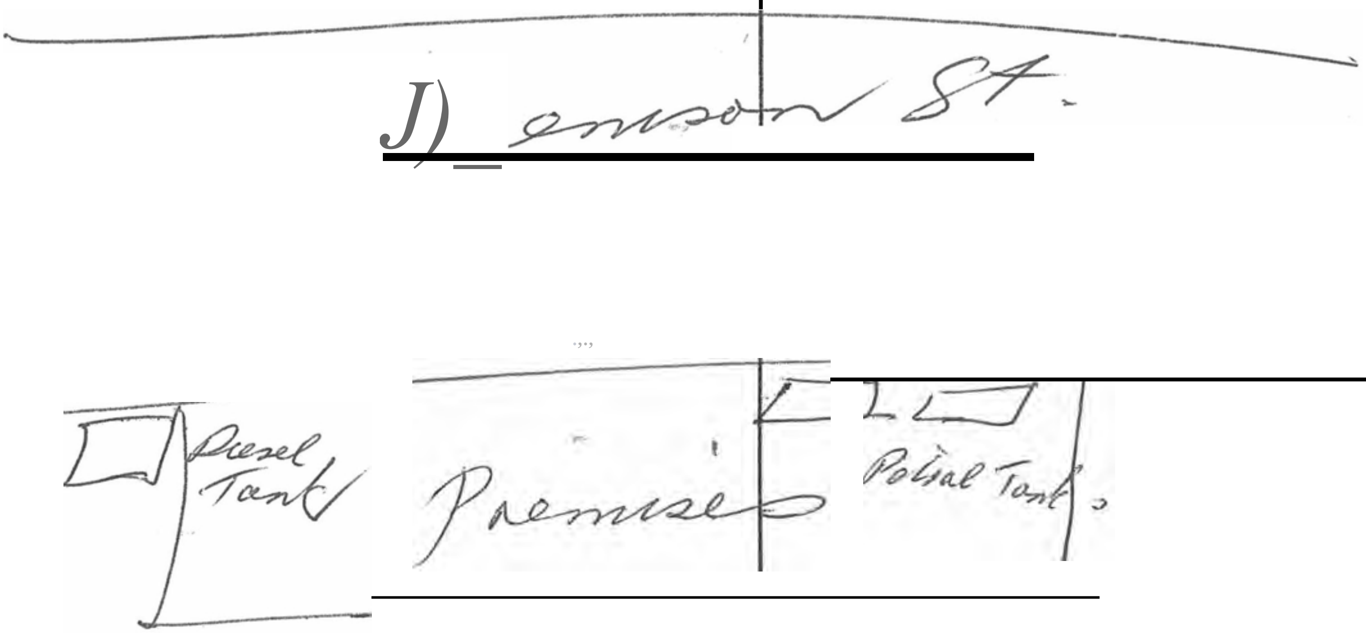
PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots*			Inflammable liquid		Dangerous goods					
	Walls	Roof	Floor	Mineral Spirit gallons	Mineral Oil gallons	Class 1 gallons	Class 2 gallons	Class 3 lb	Class 4 cu ft	Class 5A water gallons	Class 9 gallons
				i.,,,e-1,t/	!her leilhl						
1	.c:lt,,/l;vu!J1 L,,:1			FOOD							
2		'ead/ /OD a.£..-									
3											
4	/,,(.e, ./flUm :I'					d./es0),,,,,,;-_		,,,__L			
5	er /IA9 -				ff"			v ,/,			
6								=>usllC R::VENLJE,A			
7								==--b. -		$h io -	
8											
9								LD.ak)			
10								Receipt No..../.'J?_;,&			

* If product is kept in tanks describe depots as underground or aboveground tanks.

of ppli a :-

J.VY'I\,,.I. pv.Luv.1..1, UC J.51.1cu '-V }..IJ.CY'CUt. VUUJ.V'fY.



CE F CTION

I, A. Lionel B. ... a l r under the Inflam.1 Liquid Act, 1915 (as amended), do hereby certify at the premises or store herein referred es suitable with regard situation and construction for the safe keeping of inflammable liquid and/or dangerous good n t at sp i d.

Place Gloucester

Date 7/10/70.

Signature of Inspector .... V L Hartley

1...1cerise, ror .ne Keeping or inr;ammao;e uqu1a ana;o1 uangerous G-6oci-.::i1 c\Ccordance with the provisions of the Inflammable Li9uid Act, 1915-53, for the ensuing year./-

EXPLANATORY

Inflammabl Liquid-

Mineral Oil-includes kerosene, mineral turpentine and white spirit (for cleaning), and compos1t1ons containing same.
Mineral Spirit-includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods-

Class 1.-Acetone, amyl acetate, butyl acetate, carbon bisulphide; any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.-Nitro-cellulose (also known as "pyroxylin " and "col!odion cott0n ") moistened with an alc9!:P -(al 9 known as "butanol "), methylated spirits, vegetable turpentine; and any liqu;d or solid containing met' y ci:."tp(iiEs,P .fi\giw .;_t;;r . flashing point of less than 150 degrees Fahrenheit.

Class 3.-Nitro-cellulose product.

Class 4.-Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS

I.Applications must be forwarded to the Chief Inspector of Inflammable Liquid Explosiv.e epaFtm i'{.'No. 4 Albert St , off hillip Street, Circular Quay, Sydney (Box 48, G.P.O.). must **be** aceompanied by the prescribed fee, et out hereunder:-

Regi!tration of Premises (Fee £1 IOs. Od. p.a.).-For qua:.tities not exceeding 300 gallons of min r, LLaa.cU.00.::gal'lciifiof mineral spirit, if kept together; or 800 gallons of mineral oil and 100 ga!lo s of mineral spirit, if kept in separate depo.s; or"sOO gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mi:1eral oil and 500 gallons of mineral spirit, if mineral spirif is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes I and 2 may be kept under the like conditior;s; reading Dangerous Goods of Class I for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, **Div. A** (Fee, £3 5s. Od. p.a.).-For quantities in excess of those stated above, but not exceeding 4,000 gallons mir.eral oil and/or mineral spirit, ar.d/or Dangerous Gcods of Cl::isses I and 2.

Store Lic2nse, **Div. B** (Fees, See Regulation 7).-For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or dangerous goods of Classes I and 2, and/or dangerot:s goods of Class 3.
For the keeping of Dangerous Goods of Classes 3 and/or 4. **(£7 iOs. Od. p.a.).**

2. The certificate of inspection at foot hereof must be,igne:d by an Inspector under the Inflammable Liquid Act, 1915-1953, or Police Officer, or other officer duly authorised in that behalf, a,,d where the premises are situated outside the Metropo!itan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

1. Name in full of o:cupier — 6-7¢>"? 7-

2. Occupation —

3. Locality of the premises in which the depot or depots are situated — Street

4. Nature of premises (Dwelling, Garage, Stor , etc.) — Towo

5. Will mineral spirit be kept in a prescribed underg1·ound tank depot?

6. Particulars of construction of depots and maximum qua;;"i:ities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots.			Inflammable Liquid.		Dangerous Goods.			
	Walls.	Roof.	Floor.	Mineral Spirit, Gallons.	Mineral Oil. Gallons.	Class I. Gallons.	Class 2. Gallons.	Class 3. lb.	Class 4. vcub• ft.
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Signature of Applica.....

Postal Address..... A-? :2-:

ofApplication..... 19

CERTIFICATE OF INSPECTION.

..... eing an nspector un er the Inflamma e Liquid Act, 1915-53, do hereby certify that the premises or store herein referred to and described is suitable with regard to its situation and construction for the safe keeping of inflammable liquid and/or dangerous goods in 9uantity and nature specified.

Place.....

Signature of Inspector .....

/ ...4/4

Make Rough Sketches showing-

Ground plans of premises showing position of depot or depots and adjacent buildings, also distances separating depots and buildings.

Sketch of depot or depots showing provision made for vf ..,,,.,cin, also inside dimensions (length, width, and depth) 01 .:: **pi1;**, or lower portion, designed to prevent outflow.

This sketch is not required for underground tanks.

TABLES SHOWING DISTANCES WHICH UNDER LICENSE MUST SEPARATE PROTECTED WORKS FROM DEPOTS.

Table 1,-Where Mineral Spirit and/or Dangerous Goods of Class I (with or without Mineral Oil and/or Dangerous Goods of Class 2) are kept or to be kept :-

In an underground Tank Depot, In quantity exceeding 500 gallons, but not exceeding-	In an aboveground Tank Depot or other Depot, separated from protected works by a screen wall, In quantity exceeding I 00 gallons, but not exceeding-	In an aboveground Tank Depol or other Depot not separated from protected works by a screen wall, In quanlity exceeding I 00 gallons, but not exceeding-	D!stance not less than-
Gallo'ns.	Gallons.	Gallons.	Feet.
2,000	1,000	!50	JO
2,400	1,200	300	II
2,800	1,400	350	12
S,200	1,600	400	13
3,600	1,800	450	14
4,000	2,000	500	15
7,200	3,600	900	16
10,400	5,200	1,300	17
13,600	6,800	1,700	**18**
16,800	8,400	2;100	19
20,000	10,000	2,500	20
22,000	11,000	2,750	21
24,000	12,000	3,000	**22**
26,000	13,000	3,250	23
28,000	14,000	3,500	24
30,000	15,000	3,750	25
32,000	16,000	.;**1)00**	26
40,000	20,000	5,000	30
80,000	40,000	10,000	40
100,000 **and over.**	80,000	20,000	50
	160,000	40,000	75
	320,000 and over.	80,000	JOO
		120,000	115
		240,000	130
		400,000 and over.	150

Table 11.....:..Where MiAeral Oil and/or Daffgerous Goods of Class 2 only are kept or to be kept :-

In an underground Tank Depot, In quantity exceeding 800 gallons, but not exceeding-	In an aboveground Tank Depot or other Depot separated from protected works by a screen wall, In qaantity exceeding 800 gallons, but not exceeding-	In an aboveground Tank Depot or other Depot not separated from protected works by a screen wall, In quantity exceeding 800 gallons, but not exceeding-	Distance not **less** than-
Gallons.	Gallons.	Gallons.	**Feet.**
4,000	2,000	1,000	**JO**
8,000	4,000	2,000	**15**
14,400	7,200	3,600	**16**
20,800	10,400	**5,200**	17
40,000	20,000	10.000	**20**
80,000	40,000	20,000	30
160,000	80,000	**40,000**	**40**
320,000 and over.	160,000	80,000	**50**
	320,000 and over.	160,000	**75**
		320,000 and over.	**100**

Appendix D

Calibration Certificates

'i:Fltechrentals

Calibration Record Form

Model:	HAN,9829-4M
Asset No:	204256
Serial No:	04110064101
Worksheet No.:	599917
Location:	TR Brisbane
Calibration Date:	14/12/2021
Comments:	
Completed by:	Nathaniel Brewer

Reference Solutions	Lot No	Meter Reading - After Adlustment
Temperature (meter)		23.9 degC
Turbidity 0 FNU	4915	0.1 FNU
Turbidity 20 FNU	5678	20.3 FNU
Turbidity 200 FNU	5679	201 FNU
Conductivity 12.88 mS/cm	354761	12.89 uS/cm
pH Buffer 4	360389	4.01pH
pH Buffer 7	358578	7.01pH
Hanna 240mV@ 25°de11C	5766	240 mV @ 23.6 degC
DO 100% Saturation Water saturated Air	-	100%
DO 0% Saturation Sodium Sulphite Solution	1811279841	0%

IRtechrentals

Calibration Record Form

Model:	**RAE,MINIRAE3000+**
Description:	Handheld VOC Monitor
Serial No.:	592-927170
Asset:	**203941**

Range	Source	Tolerance	Reading	Pass/Fall
-	Fresh Air	-	0.0	Pass
100ppm Isobutylene	Lot No 236360 Exp Date Mar 2023	2%	100.0	Pass

Worksheet **No.:**	s9903s
Location:	TR Brisbane
Calibration Date:	16/11/21
Comments:	
Completed by: AX	Signed: ,\r-J' Date: 16/11/2021

Appendix E

Letter from Dr David Tully CEnvP SC

Contaminated Land Solutions

8 February 2022

Ref: CLS0182.L01

Regional Geotechnical Solutions Pty Ltd
44 Brent Street
Wingham
NSW 2429

For the attention of Andrew Hills

Dear Andrew,

RE: Report Review: Stage 1 & 2 Site Contamination Assessment– Proposed Visitor Information Centre, 17 Denison Street, Gloucester

I, Dr David Tully of Contaminated Land Solutions Pty Ltd, am a Certified Environmental Practitioner Site Contamination Specialist (General Certified Environmental Practitioner certification no. 1138 and Site Contamination Specialist certification no. SC40084).

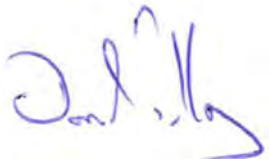
I confirm I have reviewed the Regional Geotechnical Solutions letter report entitled "*Stage 1 & 2 Site Contamination Assessment– Proposed Visitor Information Centre, 17 Denison Street, Gloucester*" (Ref: RGS02423.1-AB), dated 4 February 2022 and a copy of which I have retained.

I can confirm that on the basis of the information contained within the letter report, I support the conclusions and recommendations provided therein.

Should the client, regulator or local authority have any queries regarding the report review, I can be contacted by e-mail via david.tully@contaminatedlandsolutions.com.au. Specific queries regarding the content of the report should be addressed to Andrew Hills at Regional Geotechnical Solutions.

For and on behalf of

Contaminated Land Solutions Pty Ltd



Dr David Tully CEnvP SC
Director
Contaminated Land Solutions Pty Ltd

Contaminated Land Solutions Pty Ltd
10 Heath Road
Crafers West SA 5152
0410 012 292
david.tully@contaminatedlandsolutions.com.au