RP Infrastructure

Stage 1 and Stage 2 Site Contamination Assessment

Tamworth Health Service Redevelopment: On-grade Carparks

Dean Street, Tamworth

Report No. RGS32576.1-AR Rev.1

22 February 2023

REGIONAL GEOTECHNICAL SOLUTIONS

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Manning-Great Lakes
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RGS32576.1-AR Rev.1

22 February 2023

RP Infrastructure
Level 19, 9 Hunter Street
SYDNEY NSW 2300

Attention: Yonis Ahmad

Dear Yonis

RE: Tamworth Health Service Redevelopment: On-grade Carparks – Dean Street, Tamworth

Stage 1 and Stage 2 Site Contamination Assessment

As requested, Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a Stage 1 and Stage 2 Site Contamination Assessment for the proposed on-grade carparks that are located at two locations within Tamworth Hospital at Dean Street, Tamworth NSW.

The assessment found that both locations are suitable for the proposed development in their current state from a contamination perspective.

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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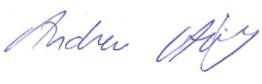

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1 INTRODUCTION

1.1 Background

Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken Stage 1 and Stage 2 Site Contamination Assessments (SCA) for the proposed on-grade carparks at two locations within Tamworth Hospital at Dean Street, Tamworth NSW.

It is understood that two new on-grade carparks are being considered to accommodate the car spaces that will be lost in association with the A2 Banksia Unit development that is located in the northern portion of the hospital complex. The proposed development areas are illustrated below.

Diagram 1: *Proposed on-grade carparks shaded blue. The A2 Banksia Unit development is shaded yellow.*

The hospital site is identified as Lot 1 DP 1181268 and occupies approximately 20 hectares. The two subject portions of the site consist of the northern site which occupies an area of approximately

2,000m^2, and the southern site which occupies an area of approximately 3,500m^2. The layout of the subject areas are illustrated above and in the attached figures.

The Stage 1 and Stage 2 site contamination assessment is required to evaluate past and present potentially contaminating activities and contamination types and to assess the site's suitability for the proposed development from a contamination perspective.

1.2 Objectives

The objectives of the SCA were to:

- Characterise the nature and extent of soil contamination present at the two locations (if any);
- Assess the suitability of the sites for the proposed development; and
- Provide recommendations for on-site management, the need and options for remediation and any further investigation and testing that is required.

1.3 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 available recent and historical aerial photography for the last 50 years;
- A search of NSW EPA records, or contaminated land notifications on the site;
- Government records of groundwater bores in the area;
- Site walkover to assess visible surface conditions and identify evidence of contamination, or past activities that may cause contamination;
- Using the above information, characterise the sites 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 evaluate the presence and extent of contamination (if any);
- Analyse samples for a suite of potential contaminants associated with the past activities; and
- Evaluate the results against industry accepted criteria for residential land use with minimal opportunities for soil access (Residential B land use guideline criteria have been adopted for this assessment as a conservative measure).

1.4 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 location:	Dean Street, Tamworth
Approximate site area:	20 Hectares (total site) 2,000m^2 (proposed northern on-grade carpark) 3,500m^2 (proposed southern on-grade carpark)
Title Identification Details:	Lot 1 DP 1181268
Current Ownership:	Health Administration Corporation
Current Landuse:	Healthcare facility (hospital)
Proposed Landuse:	Ongoing healthcare facility

Adjoining Site Uses:	• Within hospital, northern:
	  ○ North, Aged Care Assessment Team
	  ○ East, hospital buildings and existing on-grade carpark
	  ○ South, rehabilitation ward
	  ○ West, access road/existing on-grade carpark
	• Within hospital, southern:
	  ○ North, hospital building
	  ○ East, vacant land
	  ○ South, Johnston Street
	  ○ West, existing on-grade carpark
	• Surrounding area:
	  ○ Vacant land to the north
	  ○ South of Johnston Street, Tamwell Medical Centre and residential properties
	  ○ East of Smith Street, vacant land/carparks
	  ○ West of Dean Street, Tamworth Correctional Centre

Government Area:	Tamworth Regional Council

2 SITE DESCRIPTION

2.1 Topography and Drainage

The sites are located within Tamworth Hospital, off Dean Street, Tamworth.

The sites are located within undulating residual topography on a south facing hill. The surrounding slopes generally grades at about 5° to 8°.

The northern site is located on the mid slope of the south facing hill. Some cut/fill earthworks have been undertaken to create flat pads for the two masonry buildings located to the east of the proposed development area. Vegetation comprises grass and scattered trees, and there is a small garden bed in the southwest corner.

The southern site is located on the foot slopes of the south facing hill. The area is vacant. There is an on-grade sealed carpark to the north and a hospital building to the northeast. Vegetation comprises grass and scattered trees. There is a large garden bed in the southwest corner that is mulched and comprise a variety of small to large trees.

2.2 Geology

Reference to the 1:250,000 Geology Map of Tamworth indicates that the subject site is underlain by the Moore Creek Limestone Member that comprises cherty argillite, limestone, greywacke, and mudstone.

The materials encountered during the investigation are summarised below. Further details are presented on the attached engineering logs (Appendix B).

2.2.1 Northern Site

Fill:	Gravelly CLAY and Silty CLAY, medium plasticity, fine to coarse grained, with some cobbles up to 150mm in size to depths ranging from 0.3m to 1.0m;
Topsoil:	Gravelly CLAY, medium plasticity, fine grained angular gravel, with some roots to a depth of 0.2m (TP-N3 only);
Colluvial Soil:	Silty CLAY and Gravelly CLAY, medium plasticity, fine to medium grained angular gravel, very stiff to hard to at least 1.4m.

2.2.2 Southern Site

Fill:	Gravelly CLAY and Silty Sandy CLAY, medium plasticity, with some fragments of foreign material including wire, broken tiles, timber, and concrete to depths ranging from 0.35m to 0.7m;
Topsoil:	Clayey SILT, with rootlets to a depth of 0.3m (TP-S3 only);
Colluvial Soil:	Silty CLAY and Gravelly CLAY, medium plasticity, fine to medium grained angular gravel, very stiff to hard to at least 1.2m in TP-S1 to TP-S3; overlying
EW to HW Siltstone:	SILTSTONE, very low to low strength, highly fractured to at least 1.0m (encountered in TP-S4 only).

2.3 Hydrogeology

A groundwater bore search on the NSW Water Information website, http://waterinfo.nsw.gov.au/gw/ indicates there is a licenced groundwater bore (GW057928) located within the hospital approximately 50m northeast of the southern site. The drill records indicate a water bearing zone of 26.2m to 26.5m. There is an additional bore (GW052834) located

to the west that recorded a water bearing zone of 24.5m to 34m. The bore locations are shown on Diagram 2 below.

Based on RGS' experience in the region, regional groundwater depth in this area is typically about 10m below ground surface in the vicinity of the hospital.

Diagram 2: *Licensed groundwater bores located within the hospital complex to the east of the southern site and to the west of the hospital.*

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 2.

Table 2 - Aerial Photograph Summary

Year	Site	Surrounding Land
1976	The hospital site has been developed with some buildings similar to the existing hospital layout. The northern and southern sites are vacant. The carpark to the northeast and building to the northwest have already been constructed.	Land surrounding the hospital is occupied by residential developments to the south and west. Vacant to the north and east.
1984	A carpark has been constructed to the east of the northern site. Southern site is unchanged.	Additional/upgrades to hospital buildings have been undertaken. Surrounding area is similar to the previous photograph.
1989	Building constructed to the south of the northern site. Southern site is unchanged.	Minor upgrades to hospital roads and buildings, and increased vegetation. Surrounding area is similar to the previous photograph.
2013 (Google Earth)	New buildings constructed in northern portion of the northern site and directly to the east, and carpark to the west. Demountable building has been placed in the northeast corner of the southern site. Entries to the adjacent carpark have been constructed off Johnston Street and Dean Street.	New buildings constructed/upgraded around hospital. Continued residential developments to the south and west of the hospital. Carpark and other earthworks undertaken to the east.
2015 (Google Earth)	Both sites similar to the previous photograph.	Upgrades in hospital roads and buildings. Area surrounding the hospital is simar to the previous photograph.
February 2016 (Google Earth)	Building upgrades directly to east of the northern site. Entries roads removed from carpark next to southern site.	Similar to the previous.
October 2017 (Google Earth)	Building in northern portion of the northern site demolished/removed. Southern site similar to previous.	Similar to the previous.

March 2020 (Google Earth_	Northern site similar to previous. Demountable building removed from the southern site.	
2022 (Google Earth)	Minor variation in vegetation. Grass has grown over the pad where the demountable building was located in the southern site.	Similar to the previous.

2.4.2 Site Observations

Field work was undertaken on 28 September 2022. Observations from a contamination perspective made during the site visit are summarised below:

- Both northern and southern sites are vegetated with grass, minor cut/fill earthworks have been undertaken in both locations;
- Some buried materials including wire, broken tiles, timber, and concrete were observed in some test pits excavated in the southern site including TP-S1, TP-S2, and TP-S4;
- No other visual (such as oil staining) or olfactory evidence of contamination was observed;
- No materials suspected of being Asbestos Containing Materials (ACM) were identified.

A selection of images of the northern and southern sites are presented below.

Cut/fill in northern section of the northern site.

Looking north over the southern portion of the northern site.

Existing building adjacent to the southern portion of the northern site.

Existing building adjacent to the northern portion of the northern site.

Looking west over the southern site where the demountable building was previously located.

Looking northeast over the southern site.

Wire encountered in TP-S1.

Broken concrete encountered in TP-S1.

Wire and timber encountered in TP-S2.

Broken tile recovered from TP-S2.

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 trustees of the site was obtained from the Land Titles Office. A summary of the title details is included in Appendix A.

The title history search revealed the following:

1882 – 1931	Philip Gidley King David Williamson Irvine

	Nathan Cohen Daniel Regan Thomas Matthew Newman *(Trustees of Public Hospital Tamworth)*
1931 – 1931	Thomas Matthew Newman *(Trustee of Public Hospital Tamworth)*
1931 – 1991	The Tamworth District Hospital
1991 – 1998	The Tamworth Base Hospital
1998 – 2013	New England Health Services *(Formerly The Tamworth Base Hospital)*
2013 – to date	Health Administration Corporation

2.4.5 Site History Summary

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

- The land has been owed by the hospital or trustees of the hospital since 1882;
- The general layout of the hospital and some of the existing hospital buildings were constructed prior to 1976;
- Some buildings and carparks have been constructed and upgraded in the vicinity of both locations;
- A building (constructed post 1989) was located in the northern portion of the northern site and was demolished between 2016 and 2017;
- Entries to the carpark adjacent to the southern site previously went through the site but were removed and revegetated between 2015 and 2016; and
- A demountable building was located in the northeast corner of the southern site between 2013 and 2020.

3 FIELD AND LABORATORY INVESTIGATIONS

3.1 Sampling Plan

The NSW EPA (2022) *Sampling design part 1 - application* recommend a minimum of 8 sampling locations to characterise a site of 2,000m^2 (northern site) and a minimum of 10 sampling locations to characterise a site of 3,500m^2 (northern site) by systematic sampling.

Based on the above, 36 soil samples (18 jar samples and 18 bag samples) were collected from 18 test pits.

3.2 Field Work

Field work for the assessment was undertaken on 28 September 2022 and included:

- Site walkover to assess visible surface conditions and identify evidence of contamination, or past activities that may cause contamination (if any);
- The excavation of four test pits with a 5 tonne excavator, designated TP-N1 to TP-N4 and four additional shallow test pits with hand tools from the northern site;
- The excavation of five test pits with a 5 tonne excavator, designated TP-S1 to TP-S5 and five additional shallow test pits with hand tools from the southern site;
- The test pits were logged and sampled by a Senior Geotechnical Engineer from RGS.

The locations of the sampling points are shown on Figure 3 and Figure 4. They were obtained on site and located by measurement relative to existing site features.

Soil samples were taken from the fill and the underlying natural material using disposable gloves sampling out of the centre of the excavator bucket. The samples were collected in acid-rinsed 250mL glass jars and zip lock bags and placed in an ice-chilled cooler box.

3.2.1 Laboratory Analysis

Samples were transported under chain-of-custody conditions to ALS Laboratory Group and Environmental Analysis Laboratory, Southern Cross University, NATA accredited specialist chemical testing laboratories, 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 and quantification of asbestos.

The results are presented in Appendix C.

3.3 Data Quality Objectives

The Data Quality Objectives (DQOs) are presented in Table 3.

Table 3 – Data Quality Objectives

DQO	Details of Process
State the Problem	A Stage 1 and Stage 2 SCA is required to assess the suitability of the sites for the proposed on-grade carparks from a contamination perspective.
Identify the Decision	The principal study questions that are: • What is the nature and extent of soil contamination on the subject land (if any)?; and • Is the land suitable for the proposed hospital carpark redevelopment from a contamination viewpoint?
Identify Inputs to the Decision	The primary inputs are: • Site history study; • Site walkover assessment; • Chemical analysis of selected soil samples; and • Results summary.
Define the Boundary of the Assessment	• The spatial boundaries are limited to the proposed on-grade carpark boundaries as shown on Figure 2; • The investigation and screening levels for a Residential B land use scenario (limited access to soil) as a conservative measure.
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 Residential B land use scenario (as a conservative measure), then further assessment may be required; Decision criteria for QA/QC measures are defined in Section 5. 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 and inter-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 5; • Acceptable investigation and screening levels are those for a Residential B land use scenario; 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

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 as amended in 2013 (NEPM 2013)*. The NEPM document provides a range of guidelines for assessment of contaminants for various land use scenarios.

The proposed future land use is for an ongoing rural healthcare facility. As such, comparison with the NEPM guideline Health Investigation and Screening Levels for Residential B (high rise buildings and apartments with limited access to soil) land use is considered appropriate for this site as a conservative measure. In accordance with the NEPM guideline the following criteria were adopted for this assessment:

- Health Investigation Levels (HILs) for Residential 'B' land use (HIL-B) 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 Residential B 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;

- Ecological Investigation Levels (EILs) for urban residential and public open space land use were used for evaluation of the potential ecological / environmental impact of heavy metals and PAHs;
- Ecological Screening Levels (ESLs) for coarse textured (sand) soils or fine textured (silt and clay) soils on a Residential B 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 the results summary table in Appendix C.

5 QUALITY ASSURANCE / QUALITY CONTROL

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.

Samples were placed on ice on-site and maintained on ice during transport to the testing laboratories. Two duplicate samples were collected and submitted to the laboratory for analysis for quality control purposes as follows:

- Duplicate (N-D1) and Triplicate (N-T1)– Replicate of primary sample TP-N4; and
- Duplicate (S-D1) and Triplicate (S-T1)– Replicate of primary sample TP-S5.

The Relative Percent Differences (RPDs) were calculated for the duplicate and triplicate samples and are presented in the results summary table in Appendix B.

The duplicate and triplicate RPDs were within the control limit of 40% (with the exception of Arsenic in sample TP-N4 and triplicate sample N-T1) and indicated generally good correlation between the primary and duplicate samples.

It is noted that low analyte concentrations exaggerate the percentage differences with respect to small total concentration differences, therefore where results for the primary, duplicate, and triplicate, were less than 10 times the laboratory limit of reporting (LOR), the RPDs have been disregarded. The RPD for arsenic in sample TP-N4, which exceeded the 40% control limit as outlined above were disregarded on this basis. It is also noted that some elevated levels of TRH and PAH compounds were found in triplicate sample S-T1 analysed at the secondary laboratory and not in the primary sample, however, the levels were below the LOR of the primary laboratory.

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 C.

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.

6 RESULTS

6.1.1 Subsurface Conditions

The soil types recorded in surface samples are summarised below in Table 4.

Table 4: Summary of Subsurface Conditions (Surface Samples)

Sample ID	Description
TP-N1 0.05 – 0.1	Fill: Gravelly CLAY
TP-N2 0.05 – 0.1	Fill: Sandy CLAY
TP-N3 0.9 – 1.0	Colluvial Soil: Gravelly CLAY
TP-N4 0.1 – 0.2	Fill: Gravelly CLAY
TP-N5 0.05 – 0.1	Fill: Gravelly CLAY
TP-N6 0.1 – 0.2	Fill: Gravelly CLAY
TP-N7 0.05 – 0.1	Fill: Gravelly CLAY
TP-N8 0.05 – 0.1	Fill: Gravelly CLAY
TP-S1 0.3 – 0.35	Fill: Gravelly CLAY
TP-S2 0.2 – 0.3	Fill: CLAY with gravel
TP-S3 0.1 – 0.2	Topsoil: Clayey SILT
TP-S4 0.1 – 0.2	Fill: Sandy Silty CLAY
TP-S5 0.1 – 0.2	Fill: Gravelly CLAY
TP-S6 0.1 – 0.2	Fill: Sandy CLAY
TP-S7 0.1 – 0.2	Colluvial Soil: Gravelly CLAY
TP-S8 0.05 – 0.1	Colluvial Soil: Gravelly CLAY
TP-S9 0.1 – 0.2	Colluvial Soil: Gravelly CLAY
TP-S10 0.1 – 0.2	Colluvial Soil: Gravelly CLAY

6.1.2 Laboratory Results

An appraisal of the laboratory test results presented in Appendix C is provided below with reference to the adopted soil investigation and screening levels discussed in Section 4.

- Concentrations of heavy metals were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Residential B site in each of the samples analysed;
- Concentrations of TRH, PAH and BTEX were below the laboratory limit of reporting in each of the samples analysed except sample TP-S5 0.1-0.2 that had elevated levels of TRH C_{16}-C_{34} fraction, and sample TP-S7 0.1-0.2 that had elevated levels of TRH C_{16}-C_{34} fraction and TRH C_{34}-C_{40} fraction, however the levels were well below the adopted ecological investigation criteria and management limits for a Residential (B) site;
- Concentrations of PCB and OC/OP pesticides were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Residential B site in each of the samples analysed; and
- Asbestos was not detected in the remaining soil samples.

6.2 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.

6.2.1 Potential Sources of Contamination

Potential Areas of Environmental Concern (AECs) and Chemicals of Concern (COCs) identified for the assessment are outlined in Table 5 and Table 6.

Table 5: Potential AECs and COCs Northern Site

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC1: Soils in the vicinity of structures previously demolished	Potentially hazardous building materials	Lead and asbestos	Moderate
AEC2: Fill from cut to fill earthworks	Importation of potentially contaminated fill	Heavy Metals, TPH, BTEX, PAH, PCB, OC/OPP and asbestos	Low to moderate
AEC3: Vegetated areas	Pesticides used for general landscape upkeep.	OC/OPP	Low to moderate

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*	

Table 6: Potential AECs and COCs Southern Site

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC1: Soils in the vicinity of demountable building previously located on site	Potentially hazardous building materials	Lead and asbestos	Moderate
AEC2: Fill encountered throughout site	Importation of potentially contaminated fill	Heavy Metals, TPH, BTEX, PAH, PCB, OC/OPP and asbestos	Low to moderate
AEC3: Previously vegetated areas	Pesticides used for general landscape upkeep.	OC/OPP	Low to moderate
AEC4: Previous carpark entry roads	Oil spills or fuel spills	TPH, BTEX, PAH, Heavy metals	Low to moderate
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*			

The approximate locations of the AEC's are shown on Figure 3 and Figure 4.

6.2.2 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 of both sites are summarised in Table 7.

Table 7: 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
Asbestos, heavy metals, TPH, BTEX, PAH, PCB, OC/OPP	Skin contact / ingestion, plant uptake	Onsite - Construction and site workers, future site users, vegetation in landscaped areas
Heavy Metals, TPH, BTEX, PAH, PCB, OC/OPP	Surface runoff and leaching of soils	Offsite - Surface water ecosystems and users

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

6.3 Discussion

A Stage 1 and Stage 2 SCA was required to assess the site's suitability for future development of on-grade carparks in both northern and southern locations from a contamination perspective.

The site history study indicates that the hospital layout has changed several times since initial construction. Some buildings and roads have previously been located in both locations.

Identified AEC's included soils in the vicinity of the structures previously demolished, fill placed for pads for buildings, vegetated areas, and areas of previous carpark entry roads.

No visual or olfactory evidence of contamination (such as oil staining or hydrocarbon odours) were observed, however, some buried materials including wire, broken tiles, timber, and concrete were observed in some test pits excavated in the southern site. No ACM was observed within the test pits or elsewhere across the site. Samples TP-S1 0.3-0.35m, TP-S2 0.2-0.3m, and TP-S4 0.1-0.2m were sampled from the soil surrounding the buried material.

The results of laboratory analysis of surface soil samples collected from four targeted locations (AEC's outlined above), revealed concentrations of the chemicals of concern were either below the laboratory reporting limit, or below the adopted health investigation criteria for a Residential B site.

Some elevated concentrations of TRH above the laboratory reporting limits were encountered in samples obtained from TP-S5 0.05-0.1m (C_{16}-C_{34} fraction) and TP-S7 0.1-0.2m (C_{16}-C_{34} fraction and TRH C_{34}-C_{40} fraction), however, the levels were well below the adopted ecological investigation criteria and management limits for a Residential (B) site.

Asbestos was not detected in any of the soil samples tested.

6.4 Conclusions and Recommendations

Based on the above and the findings of the Stage 1 and Stage 2 site SCA presented herein, the soils tested meets the requirements for a Residential B site as detailed in the NEPM 2013 guidelines and in accordance with 'State Environmental Planning Policy (Resilience and Hazards) 2021' both northern and southern sites are considered suitable for the proposed carpark developments in their current state from a contamination perspective.

Should potential evidence of site contamination be identified during development activities, such as soil staining, buried materials, odours or possible ACM, then a site contamination specialist should be contacted for advice without delay.

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 based on data collection, judgment, experience, and opinion. By nature, these investigations are 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.

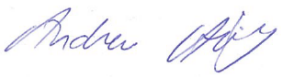
For and on behalf of **Regional Geotechnical Solutions Pty Ltd**

Prepared by

Louis Davidson

Senior Geotechnical Engineer

Reviewed by

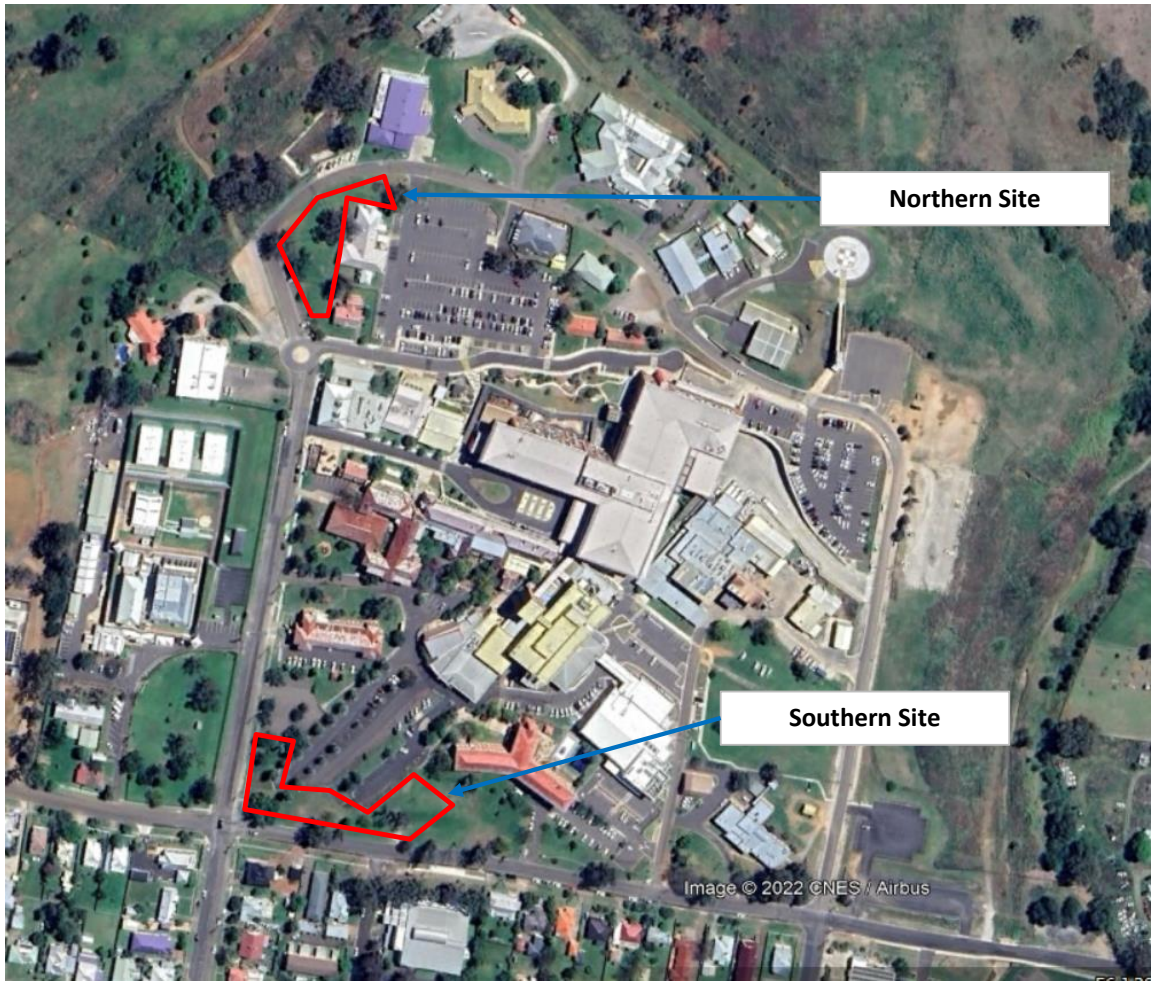


Andrew Hills

Senior Environmental Engineer

Figures

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	RP Infrastructure	Job No.	RGS32576.1
	Project:	Tamworth Health Service Redevelopment: Propsoed On-grade Carparks Dean Street, Tamworth	Drawn By:	LD
			Scale:	NTS
			Date:	20-Oct-22
	Title:	Site Location Plan	Drawing No.	**Figure 1**

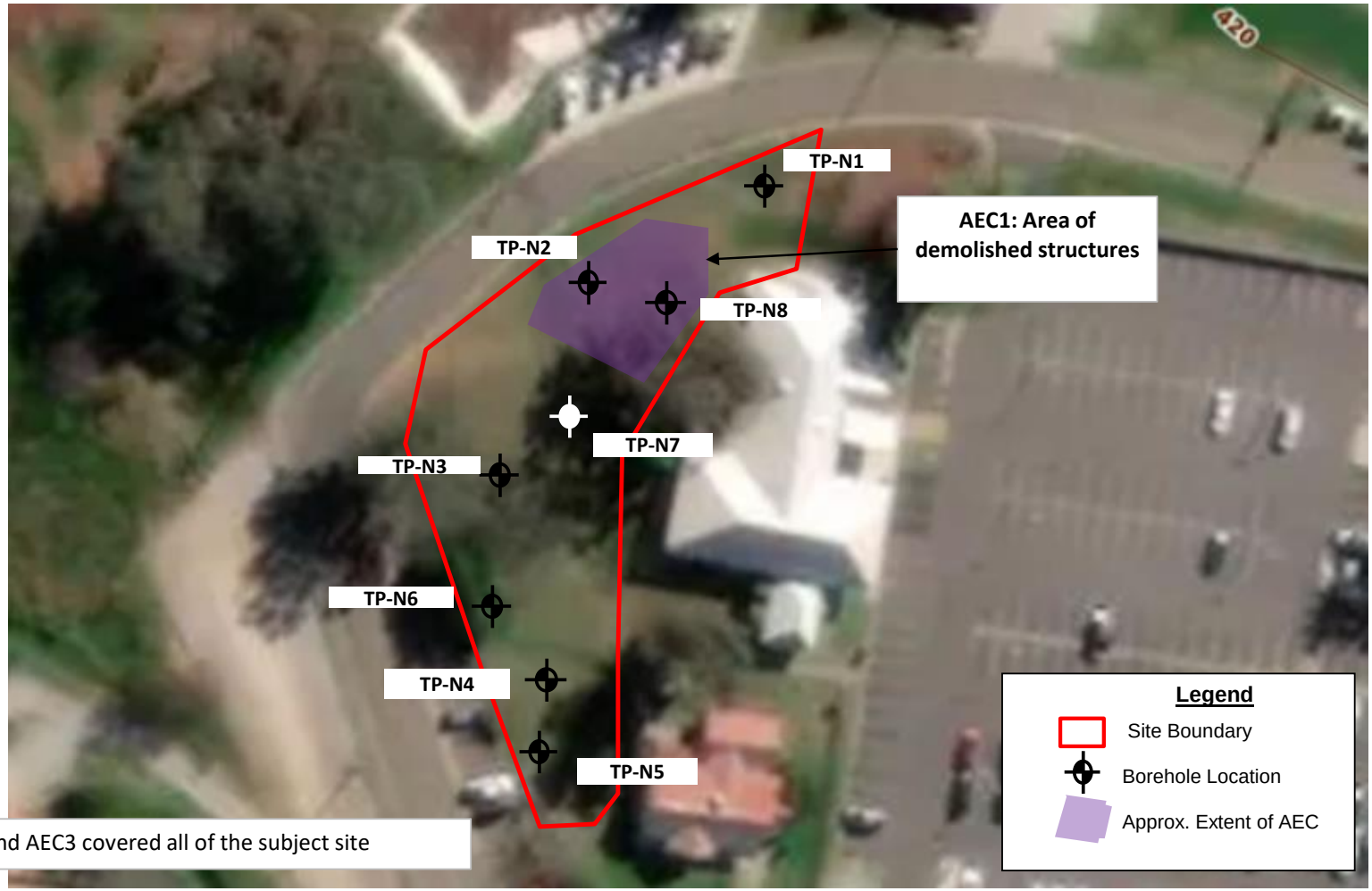


Legend

Site Boundary

REGIONAL GEOTECHNICAL SOLUTIONS

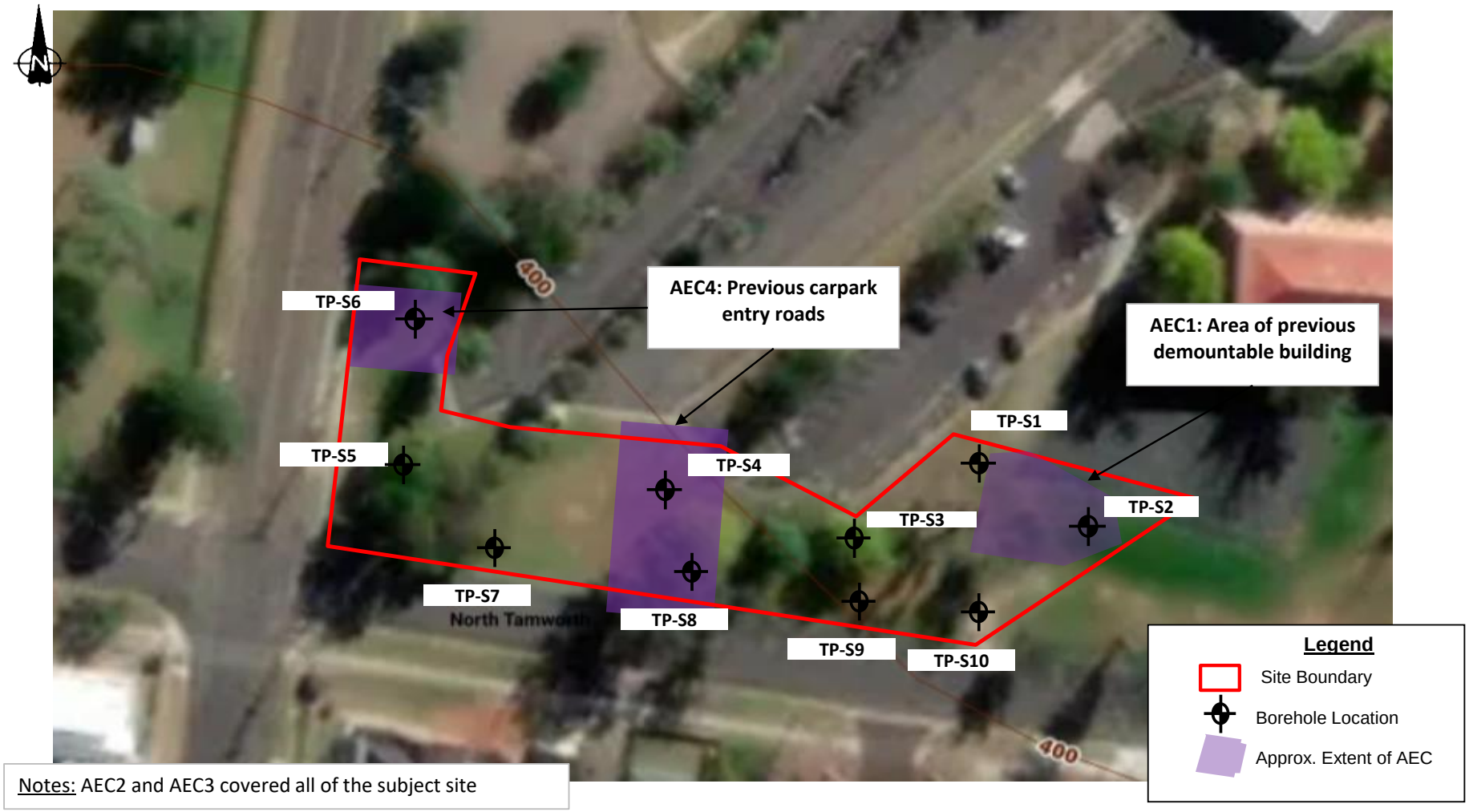
Client:	RP Infrastructure	Job No.	RGS32576.1
Project:	Tamworth Health Service Redevelopment: Propsoed On-grade Carparks Dean Street, Tamworth	Drawn By:	LD
		Scale:	NTS
		Date:	20-Oct-22
Title:	Site Layout Plan	Drawing No.	**Figure 2**



Notes: AEC2 and AEC3 covered all of the subject site

REGIONAL GEOTECHNICAL SOLUTIONS

Client:	RP Infrastructure	Job No.	RGS32576.1
Project:	Tamworth Health Service Redevelopment: Propsoed On-grade Carparks Dean Street, Tamworth	Drawn By:	LD
		Scale:	NTS
		Date:	20-Oct-22
Title:	Sample Location Plan: Northern Site	Drawing No.	**Figure 3**



Notes: AEC2 and AEC3 covered all of the subject site

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	RP Infrastructure	Job No.	RGS32576.1
	Project:	Tamworth Health Service Redevelopment: Propsoed On-grade Carparks Dean Street, Tamworth	Drawn By:	LD
			Scale:	NTS
			Date:	20-Oct-22
	Title:	Sample Location Plan: Southern Site	Drawing No.	**Figure 34**

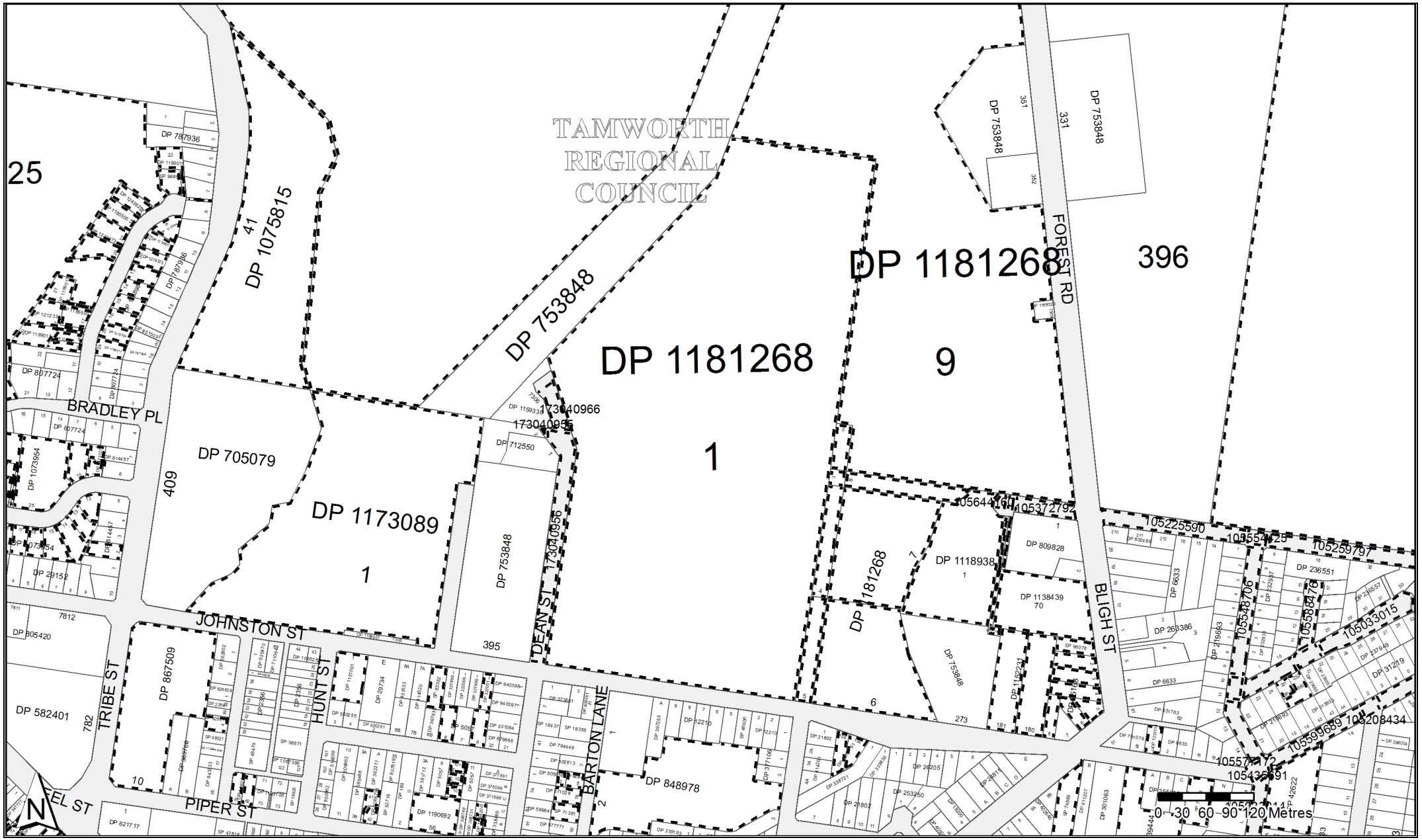
Appendix A

Site History Documentation

Cadastral Records Enquiry Report : Lot 1 DP 1181268

Ref : NOUSER

Locality : NORTH TAMWORTH
Parish : TAMWORTH
LGA : TAMWORTH REGIONAL
County : INGLIS



This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

	Status	Surv/Comp	Purpose
DP5057			
Lot(s): 6			
DP1251197	WITHDRAWN	UNAVAILABLE	EASEMENT
Lot(s): 8			
DP1139570	REGISTERED	SURVEY	REDEFINITION
DP25168			
Lot(s): 2, 3, 4, 5, 6, 8			
DP1152231	REGISTERED	SURVEY	SUBDIVISION
DP322001			
Lot(s): 1			
DP1251197	WITHDRAWN	UNAVAILABLE	EASEMENT
DP371028			
Lot(s): 7B			
DP1167165	WITHDRAWN	UNAVAILABLE	CONSOLIDATION
DP392344			
Lot(s): 6B			
DP1167165	WITHDRAWN	UNAVAILABLE	CONSOLIDATION
DP505056			
Lot(s): 2			
DP1167165	WITHDRAWN	UNAVAILABLE	CONSOLIDATION
DP626018			
Lot(s): 4			
DP1167052	PRE-ALLOCATED	UNAVAILABLE	REDEFINITION
DP710383			
Lot(s): 2			
DP1127918	REGISTERED	SURVEY	SUBDIVISION
DP814457			
Lot(s): 2			
DP1073954	REGISTERED	SURVEY	SUBDIVISION
DP848978			
Lot(s): 2			
RETIREMENT VILLAGE. VILLAS 1-36 SHOWN IN PLAN WITH MEMORANDUM AB21496			
DP867509			
Lot(s): 10			
DP1134688	REGISTERED	SURVEY	EASEMENT
DP1026894			
Lot(s): 251, 252			
DP219693	HISTORICAL	SURVEY	SUBDIVISION
DP1062507			
Lot(s): 61, 62			
DP587549	HISTORICAL	COMPILATION	SUBDIVISION
Lot(s): 62			
DP2356	HISTORICAL	COMPILATION	UNRESEARCHED
DP1065791			
Lot(s): 41, 42			
DP362211	HISTORICAL	SURVEY	UNRESEARCHED
DP1073954			
Lot(s): 24			
DP1140190	REGISTERED	SURVEY	SUBDIVISION
Lot(s): 10, 12, 13, 14, 15, 16, 17, 18, 23, 24, 25			
DP814457	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 25			
DP778289	HISTORICAL	SURVEY	SUBDIVISION
DP1075815			
Lot(s): 41			
DP705079	HISTORICAL	SURVEY	CROWN FOLIO CREATION
DP1081866			
Lot(s): 101, 102, 103			
DP5057	HISTORICAL	SURVEY	UNRESEARCHED

	Status	Surv/Comp	Purpose
DP1101001			
Lot(s): 1			
DP29734	HISTORICAL	SURVEY	UNRESEARCHED
DP1113727			
Lot(s): 111, 112			
DP814457	HISTORICAL	SURVEY	SUBDIVISION
DP1073954	HISTORICAL	SURVEY	SUBDIVISION
DP1114638			
Lot(s): 51			
DP602465	HISTORICAL	COMPILATION	SUBDIVISION
DP1026417	HISTORICAL	SURVEY	SUBDIVISION
DP1031338	HISTORICAL	SURVEY	SUBDIVISION
DP1118938			
Lot(s): 1			
DP753848	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1099608	HISTORICAL	SURVEY	ROADS ACT, 1993
NSW GAZ. 21-09-2007 Folio : 7235 LOT 1 DP1099608 - SEE AD462184			
Lot(s): 1, 3			
NSW GAZ. 11-07-2008 Folio : 6941 CLOSED ROAD AD790097 - LOT 3 DP1118938			
Lot(s): 2			
NSW GAZ. 08-02-2008 Folio : 672 CLOSED ROAD LOT 2 DP1118938			
DP1119787			
Lot(s): 2			
NSW GAZ. 22-02-2008 Folio : 1160 CLOSED ROAD LOT 2 DP1119787			
DP1127918			
Lot(s): 97, 98			
DP534738	HISTORICAL	SURVEY	SUBDIVISION
DP1138439			
Lot(s): 70			
DP753848	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1118603	HISTORICAL	COMPILATION	CROWN FOLIO CREATION
NSW GAZ. 28-12-2007 Folio : 10758 CLOSED ROAD LOT 1 DP1118603			
DP1140190			
Lot(s): 221, 222			
DP814457	HISTORICAL	SURVEY	SUBDIVISION
DP1073954	HISTORICAL	SURVEY	SUBDIVISION
DP1152231			
Lot(s): 181			
DP1119787	HISTORICAL	COMPILATION	ROADS ACT, 1993
NSW GAZ. 21-12-2007 Folio : 9993 CLOSED ROAD LOT 1 DP1119787			
Lot(s): 180, 181			
DP753848	HISTORICAL	COMPILATION	CROWN ADMIN NO.
Lot(s): 180			
NSW GAZ. 16-08-2013 Folio : 3777 LOT 180 DP1152231 VESTED BY THE NEW SOUTH WALES LAND AND HOUSING CORPORATION IN HOMES NORTH COMMUNITY HOUSING COMPANY LTD			

	Status	Surv/Comp	Purpose
DP1158146			
Lot(s): 7304			
NSW GAZ. 22-07-2016 Folio : 2048 REVOCATION OF RESERVATION OF CROWN LAND RESERVE NO. 96144 - LOTS 435-436 DP1054103 AND LOT 7304 DP1158146			
DP1168984			
Lot(s): 11, 13, 14, 15, 16			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1173089			
Lot(s): 1			
DP47171	HISTORICAL	SURVEY	CROWN FOLIO CREATION
DP753848	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1055791	HISTORICAL	SURVEY	CROWN FOLIO CREATION
DP1165492	HISTORICAL	SURVEY	REDEFINITION
NSW GAZ. 01-07-2011 Folio : 4697 REVOCATION OF RESERVATION OF CROWN LAND RESERVE NO. 753848 - PART BEING LOTS 405-408 DP47171, LOT 431 DP1055791, LOTS 265, 330 AND 363 DP753848 AND LOT 1 DP1165492			
DP1176430			
Lot(s): 11, 12			
DP356648	HISTORICAL	SURVEY	UNRESEARCHED
DP1181268			
Lot(s): 1			
DP533835	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1195542	REGISTERED	SURVEY	EASEMENT
Lot(s): 6			
DP1188571	REGISTERED	SURVEY	RESUMPTION OR ACQUISITION
NSW GAZ. 11-10-2013 Folio : 4470 ACQUIRED FOR THE PURPOSES OF THE HEALTH ADMINISTRATION ACT 1982 LOT 61 DP1188571 AND EASEMENTS DESIGNATED (A) AND (B) SHOWN IN DP1188571			
Lot(s): 3, 8			
DP1175412	HISTORICAL	COMPILATION	CROWN ROAD ENCLOSURE
Lot(s): 2, 9			
DP1076546	HISTORICAL	COMPILATION	DEPARTMENTAL
Lot(s): 1, 4, 5, 6, 7			
DP753848	HISTORICAL	COMPILATION	CROWN ADMIN NO.
Lot(s): 8			
NSW GAZ. 11-05-2012 Folio : 1366 CLOSED ROAD LOT 1 DP1175412			
NSW GAZ. 22-06-2012 Folio : 2514 ADDITION TO RESERVED CROWN LAND RESERVE NO. 14778 - LOT 1 DP1175412			
Lot(s): 1, 2, 3, 4, 5			
NSW GAZ. 21-12-2012 Folio : 5244 ACQUIRED FOR THE PURPOSES OF THE HEALTH ADMINISTRATION ACT 1982 - LOTS 1-5 DP1181268			
DP1185500			
Lot(s): 17, 18			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1190692			
Lot(s): 56			
DP5057	HISTORICAL	SURVEY	UNRESEARCHED
DP408923	HISTORICAL	SURVEY	UNRESEARCHED
DP873857	HISTORICAL	COMPILATION	CONSOLIDATION
DP1198311			
Lot(s): 1			
DP24858	HISTORICAL	SURVEY	UNRESEARCHED
DP534738	HISTORICAL	SURVEY	SUBDIVISION

	Status	Surv/Comp	Purpose
Lot(s): 1, 5			
DP416035	HISTORICAL	SURVEY	UNRESEARCHED
DP1199017			
Lot(s): 20, 21, 22, 23, 24			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1206794			
Lot(s): 251, 252			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1199017	HISTORICAL	SURVEY	SUBDIVISION
DP1212334			
Lot(s): 26, 27, 28			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1199017	HISTORICAL	SURVEY	SUBDIVISION
DP1219373			
Lot(s): 29, 30, 32			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1199017	HISTORICAL	SURVEY	SUBDIVISION
DP1212334	HISTORICAL	SURVEY	SUBDIVISION
DP1231114			
Lot(s): 3			
DP6633	HISTORICAL	SURVEY	UNRESEARCHED
DP1233761			
Lot(s): 155, 156			
DP21802	HISTORICAL	SURVEY	UNRESEARCHED
DP1243825			
Lot(s): 34, 35			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1199017	HISTORICAL	SURVEY	SUBDIVISION
DP1212334	HISTORICAL	SURVEY	SUBDIVISION
DP1219373	HISTORICAL	SURVEY	SUBDIVISION
DP1239283	HISTORICAL	SURVEY	SUBDIVISION
DP1248231			
Lot(s): 7, 10			
DP728359	HISTORICAL	SURVEY	SUBDIVISION
DP1078221	HISTORICAL	SURVEY	SUBDIVISION
DP1239283	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 10			
DP807724	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 7			

NSW GAZ. 18-05-2001 Folio : 2604
CROWN LANDS ACT, 1989; LAND ACQUISITION (JUST TERMS COMPENSATION) ACT, 1991; DECLARATION PURSUANT TO SECTION 138 OF THE CROWN LANDS ACT, 1989 - AFFECTING LOT 411 DP728359. ERRATUM GOV. GAZ. 1-6-2001 FOLIO 3052

NSW GAZ. 04-07-2014 Folio : 2587
REVOCATION OF RESERVATION OF CROWN LAND RESERVE NO. 753848 - LOT 33 DP1078221

	Status	Surv/Comp	Purpose
SP39444			
SP76794	REGISTERED	COMPILATION	STRATA SUBDIVISION PLAN
SP76795	REGISTERED	COMPILATION	STRATA SUBDIVISION PLAN
SP76796	REGISTERED	COMPILATION	STRATA SUBDIVISION PLAN
SP42622			
SP92944	REGISTERED	COMPILATION	STRATA SUBDIVISION PLAN
SP71381			
DP599841	HISTORICAL	COMPILATION	SUBDIVISION
DP1060436	HISTORICAL	SURVEY	REDEFINITION
SP74886			
DP411207	HISTORICAL	SURVEY	UNRESEARCHED
DP1082072	HISTORICAL	SURVEY	REDEFINITION
SP79603			
DP1117945	HISTORICAL	SURVEY	CONSOLIDATION
SP83382			
DP367939	HISTORICAL	SURVEY	UNRESEARCHED
DP1139570	HISTORICAL	SURVEY	REDEFINITION
SP96078			
DP25168	HISTORICAL	SURVEY	UNRESEARCHED
DP1234151	HISTORICAL	SURVEY	REDEFINITION
SP98897			
DP787936	HISTORICAL	SURVEY	SUBDIVISION
DP1168984	HISTORICAL	SURVEY	SUBDIVISION
DP1185500	HISTORICAL	SURVEY	SUBDIVISION
DP1199017	HISTORICAL	SURVEY	SUBDIVISION
DP1212334	HISTORICAL	SURVEY	SUBDIVISION
DP1219373	HISTORICAL	SURVEY	SUBDIVISION

Road

Polygon Id(s): 105033014

NSW GAZ. 07-06-2019 Folio : 1861

TRANSFER OF CROWN ROAD TO COUNCIL

AFFECTING THE LAND SHADED RED IN THE DIAGRAM ACCOMPANYING THIS GAZETTE NOTIFICATION

Polygon Id(s): 105644160

DP1099608 HISTORICAL SURVEY ROADS ACT, 1993

Polygon Id(s): 105010105, 105372792, 105644160

NSW GAZ. 05-05-2006 Folio : 2709

TRANSFER OF CROWN ROAD TO COUNCIL

Polygon Id(s): 173040955, 173040956, 173040966

NSW GAZ. 03-07-2015 Folio : 2042

TRANSFER OF CROWN ROAD TO COUNCIL

Polygon Id(s): 105033015, 105208434, 105225589, 105225590, 105259797, 105361269, 105435691, 105543025, 105548706, 105554425, 105577172, 105582842, 105588476, 105599689

EX-SUR 68/34 DP978236

Plan	Surv/Comp	Purpose
DP189	COMPILATION	UNRESEARCHED
DP2356	COMPILATION	UNRESEARCHED
DP5057	SURVEY	UNRESEARCHED
DP5674	SURVEY	UNRESEARCHED
DP5733	SURVEY	UNRESEARCHED
DP6633	SURVEY	UNRESEARCHED
DP12210	SURVEY	UNRESEARCHED
DP18200	SURVEY	UNRESEARCHED
DP21802	SURVEY	UNRESEARCHED
DP24811	SURVEY	UNRESEARCHED
DP25168	SURVEY	UNRESEARCHED
DP25555	SURVEY	UNRESEARCHED
DP26205	SURVEY	UNRESEARCHED
DP29152	SURVEY	UNRESEARCHED
DP29514	SURVEY	UNRESEARCHED
DP29734	SURVEY	UNRESEARCHED
DP31219	SURVEY	UNRESEARCHED
DP44204	COMPILATION	CROWN FOLIO CREATION
DP214117	SURVEY	SUBDIVISION
DP219693	SURVEY	SUBDIVISION
DP232936	SURVEY	SUBDIVISION
DP232937	SURVEY	SUBDIVISION
DP236551	SURVEY	SUBDIVISION
DP236557	SURVEY	SUBDIVISION
DP237949	SURVEY	SUBDIVISION
DP239079	SURVEY	SUBDIVISION
DP253250	SURVEY	SUBDIVISION
DP257195	SURVEY	CROWN FOLIO CREATION
DP263313	SURVEY	SUBDIVISION
DP263386	SURVEY	SUBDIVISION
DP301063	SURVEY	UNRESEARCHED
DP308731	SURVEY	UNRESEARCHED
DP308749	SURVEY	UNRESEARCHED
DP321998	SURVEY	UNRESEARCHED
DP321999	SURVEY	UNRESEARCHED
DP322000	SURVEY	UNRESEARCHED
DP322001	SURVEY	UNRESEARCHED
DP331064	SURVEY	UNRESEARCHED
DP337477	SURVEY	UNRESEARCHED
DP338466	SURVEY	UNRESEARCHED
DP338731	SURVEY	UNRESEARCHED
DP339193	SURVEY	UNRESEARCHED
DP339836	COMPILATION	UNRESEARCHED
DP355838	SURVEY	UNRESEARCHED
DP362211	SURVEY	UNRESEARCHED
DP367939	SURVEY	UNRESEARCHED
DP369706	SURVEY	UNRESEARCHED
DP371028	SURVEY	UNRESEARCHED
DP371899	SURVEY	UNRESEARCHED
DP373601	SURVEY	UNRESEARCHED
DP375099	SURVEY	UNRESEARCHED
DP377106	SURVEY	UNRESEARCHED
DP377551	SURVEY	UNRESEARCHED
DP381712	SURVEY	UNRESEARCHED
DP385488	SURVEY	UNRESEARCHED
DP392344	SURVEY	UNRESEARCHED
DP397253	COMPILATION	UNRESEARCHED
DP398004	SURVEY	UNRESEARCHED
DP401533	SURVEY	UNRESEARCHED
DP402646	SURVEY	UNRESEARCHED
DP405009	SURVEY	UNRESEARCHED
DP411207	SURVEY	UNRESEARCHED
DP414261	COMPILATION	UNRESEARCHED
DP414920	SURVEY	UNRESEARCHED
DP500251	SURVEY	SUBDIVISION

Plan	Surv/Comp	Purpose
DP500255	SURVEY	SUBDIVISION
DP502813	SURVEY	SUBDIVISION
DP505056	COMPILATION	SUBDIVISION
DP509962	SURVEY	SUBDIVISION
DP514596	SURVEY	SUBDIVISION
DP515933	SURVEY	SUBDIVISION
DP521675	SURVEY	SUBDIVISION
DP529855	SURVEY	SUBDIVISION
DP547777	SURVEY	SUBDIVISION
DP577771	SURVEY	SUBDIVISION
DP582401	SURVEY	SUBDIVISION
DP599841	COMPILATION	SUBDIVISION
DP602489	SURVEY	SUBDIVISION
DP602802	SURVEY	SUBDIVISION
DP621717	SURVEY	SUBDIVISION
DP624629	COMPILATION	CONSOLIDATION
DP625470	COMPILATION	CONSOLIDATION
DP626018	COMPILATION	CONSOLIDATION
DP701079	SURVEY	SUBDIVISION
DP705077	COMPILATION	CROWN FOLIO CREATION
DP705079	SURVEY	CROWN FOLIO CREATION
DP710383	COMPILATION	SUBDIVISION
DP711064	COMPILATION	CONSOLIDATION
DP712550	SURVEY	SUBDIVISION
DP753848	COMPILATION	CROWN ADMIN NO.
DP787936	SURVEY	SUBDIVISION
DP794449	COMPILATION	SUBDIVISION
DP805420	COMPILATION	SUBDIVISION
DP807724	SURVEY	SUBDIVISION
DP809261	SURVEY	SUBDIVISION
DP809828	SURVEY	SUBDIVISION
DP814457	SURVEY	SUBDIVISION
DP817048	SURVEY	SUBDIVISION
DP831763	SURVEY	SUBDIVISION
DP837819	SURVEY	SUBDIVISION
DP843333	SURVEY	SUBDIVISION
DP845242	SURVEY	SUBDIVISION
DP848978	SURVEY	SUBDIVISION
DP850962	SURVEY	SUBDIVISION
DP851503	SURVEY	SUBDIVISION
DP867509	SURVEY	CONSOLIDATION
DP879868	SURVEY	SUBDIVISION
DP940397	COMPILATION	UNRESEARCHED
DP940398	COMPILATION	UNRESEARCHED
DP1026894	SURVEY	SUBDIVISION
DP1062507	SURVEY	SUBDIVISION
DP1065252	SURVEY	SUBDIVISION
DP1065791	SURVEY	SUBDIVISION
DP1067396	SURVEY	SUBDIVISION
DP1073954	SURVEY	SUBDIVISION
DP1075815	SURVEY	SUBDIVISION
DP1081866	SURVEY	SUBDIVISION
DP1101001	COMPILATION	CONSOLIDATION
DP1113727	SURVEY	SUBDIVISION
DP1114638	SURVEY	SUBDIVISION
DP1118938	SURVEY	ROADS ACT, 1993
DP1119787	COMPILATION	ROADS ACT, 1993
DP1123106	SURVEY	SUBDIVISION
DP1127918	SURVEY	SUBDIVISION
DP1138439	COMPILATION	CONSOLIDATION
DP1140190	SURVEY	SUBDIVISION
DP1140190	UNRESEARCHED	SUBDIVISION
DP1152231	SURVEY	SUBDIVISION
DP1152231	UNRESEARCHED	SUBDIVISION
DP1158146	COMPILATION	CROWN LAND CONVERSION
DP1159323	COMPILATION	CROWN LAND CONVERSION

Plan	Surv/Comp	Purpose
DP1159337	COMPILATION	CROWN LAND CONVERSION
DP1159338	COMPILATION	CROWN LAND CONVERSION
DP1168984	SURVEY	SUBDIVISION
DP1168984	UNRESEARCHED	SUBDIVISION
DP1173089	SURVEY	CONSOLIDATION
DP1176430	SURVEY	SUBDIVISION
DP1181268	SURVEY	RESUMPTION OR ACQUISITION
DP1185500	SURVEY	SUBDIVISION
DP1190692	COMPILATION	CONSOLIDATION
DP1198311	SURVEY	SUBDIVISION
DP1198311	UNRESEARCHED	SUBDIVISION
DP1199017	SURVEY	SUBDIVISION
DP1199449	SURVEY	CONSOLIDATION
DP1199449	UNRESEARCHED	CONSOLIDATION
DP1206794	SURVEY	SUBDIVISION
DP1212334	SURVEY	SUBDIVISION
DP1219373	SURVEY	SUBDIVISION
DP1231114	SURVEY	REDEFINITION
DP1233761	SURVEY	REDEFINITION
DP1233761	UNRESEARCHED	REDEFINITION
DP1243825	SURVEY	SUBDIVISION
DP1248231	SURVEY	SUBDIVISION
SP18355	COMPILATION	STRATA PLAN
SP18437	COMPILATION	STRATA PLAN
SP18925	COMPILATION	STRATA PLAN
SP30550	COMPILATION	STRATA PLAN
SP37260	COMPILATION	STRATA PLAN
SP38671	COMPILATION	STRATA PLAN
SP39444	COMPILATION	STRATA PLAN
SP42622	COMPILATION	STRATA PLAN
SP46006	COMPILATION	STRATA PLAN
SP47818	COMPILATION	STRATA PLAN
SP48021	COMPILATION	STRATA PLAN
SP48479	COMPILATION	STRATA PLAN
SP52716	COMPILATION	STRATA PLAN
SP71381	COMPILATION	STRATA PLAN
SP74886	COMPILATION	STRATA PLAN
SP79603	COMPILATION	STRATA PLAN
SP83382	COMPILATION	STRATA PLAN
SP96078	COMPILATION	STRATA PLAN
SP96078	UNRESEARCHED	STRATA PLAN
SP98897	COMPILATION	STRATA PLAN
SP98897	UNRESEARCHED	STRATA PLAN

[redacted]

CERTIFICATE OF TITLE

NEW SOUTH WALES

[redacted]OPERTY ACT, 1900, as amended.

Prior Title (Crown Grant)
Volume 4517 Folio 90

Vol. 11100 Fol. 35

Edition issued 22-7-1969

(Page 1) Vol. 11100 Fol. 35

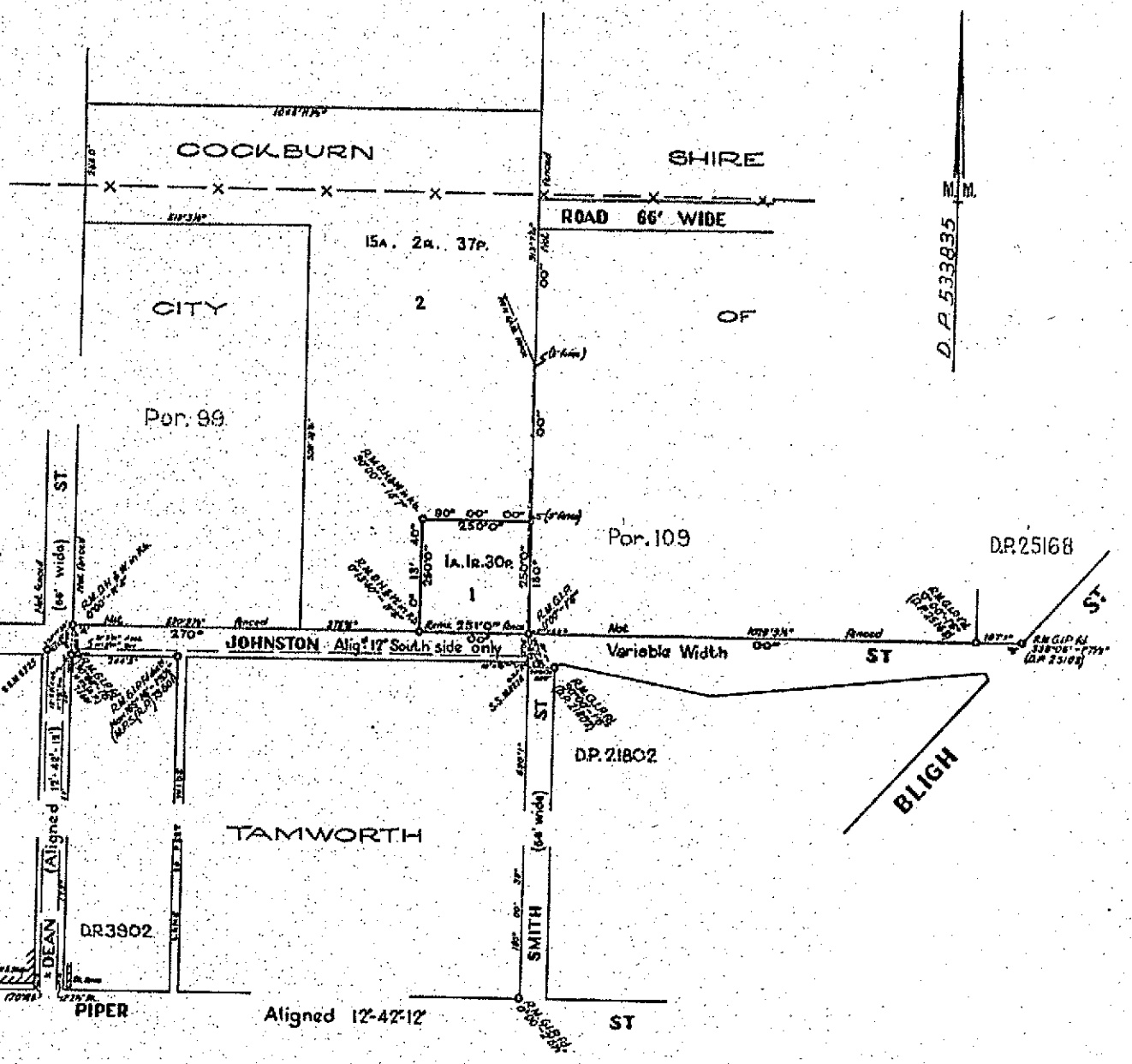
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness L. Bellinger

CANCELLED
Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 533835 in the City of Tamworth and Shire of Cockburn Parish of Tamworth and County of Inglis. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

S 1969M6414

FIRST SCHEDULE

THE TAMWORTH BASE HOSPITAL
~~THE TAMWORTH DISTRICT HOSPITAL~~.

REG.GEN 3-1-1970 CRM

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Registrar General.

69M664RL body CT reg ch of name

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
CANCELLED SEE AUTO FOLIO					

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION

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

[redacted]

ICATE OF TITLE

NEW SOUTH WALES

OPERTY ACT, 1900, as amended.

Prior Title (Crown Grant)
Volume 4517 Folio 90

Vol. 11118 Fol. 235

Edition issued 12-8-1969
L319524

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

Witness L. Bolliver

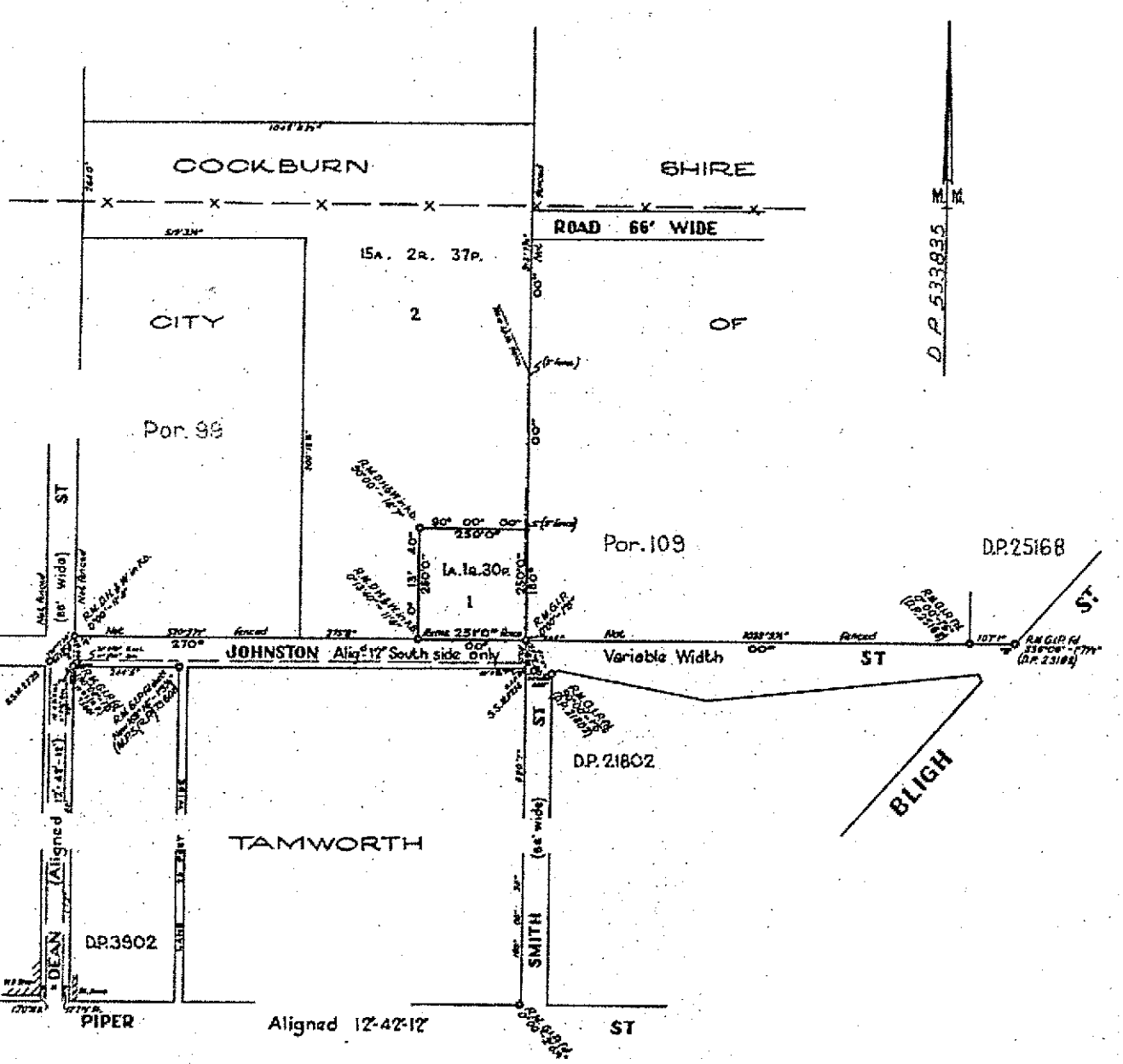
CANCELLED

Registrar General.

(Page 1) Vol. 11118 Fol. 235

PLAN SHOWING LOCATION OF LAND

SEE AUTO FOLIO



1962 M 7500

Reg. Gen. 31-10-1969

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 533835 in the City of Tamworth ~~Shire of Cookburn~~ Parish of Tamworth and County of Inglis EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

THE COMMONWEALTH OF AUSTRALIA.

SECOND SCHEDULE

GRM 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Registrar General

Vol. 11118 Fol 235

FIRST SCHEDULE (continued)

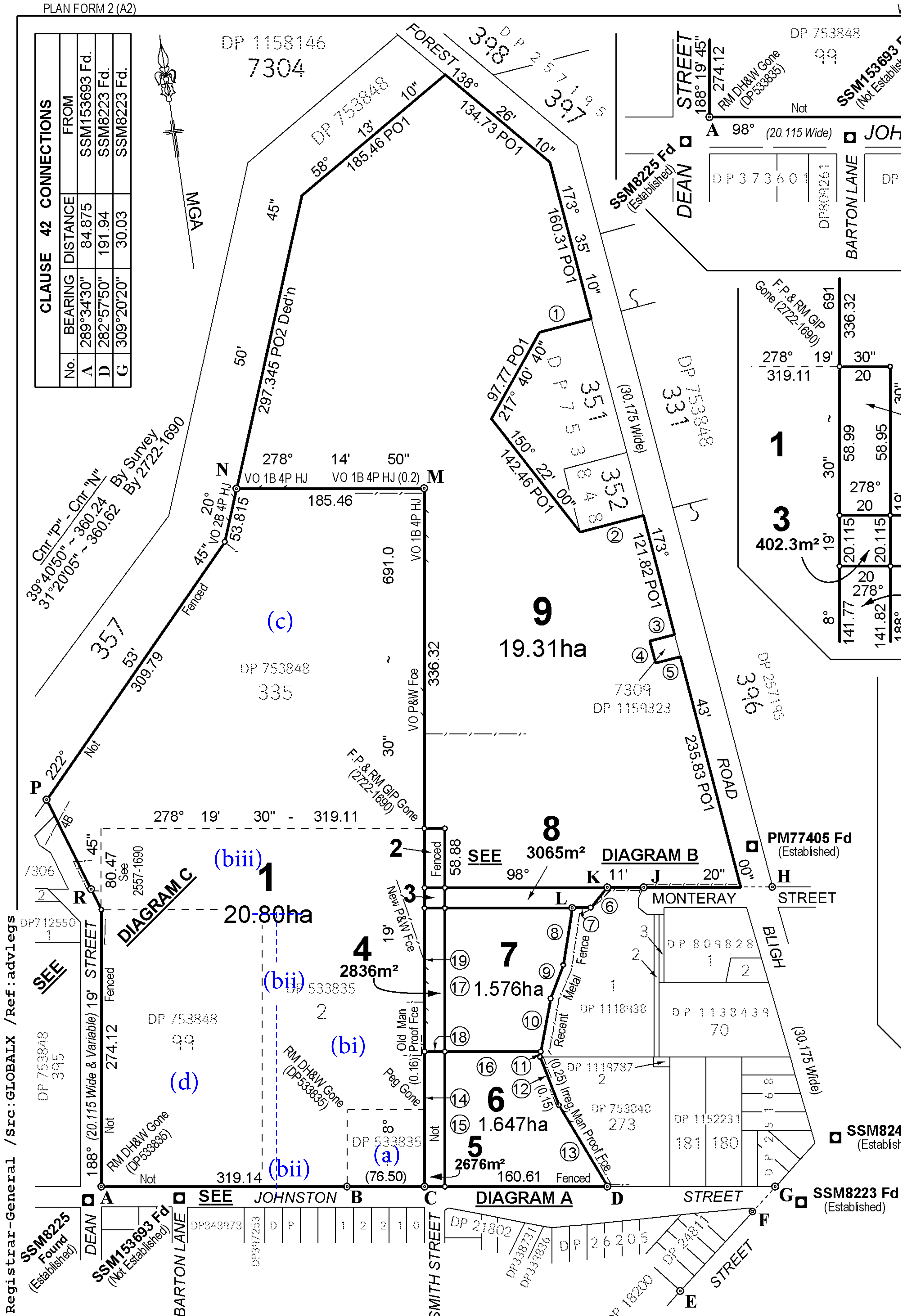
REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
CANCELLED					
SEE AUTO FOLIO					

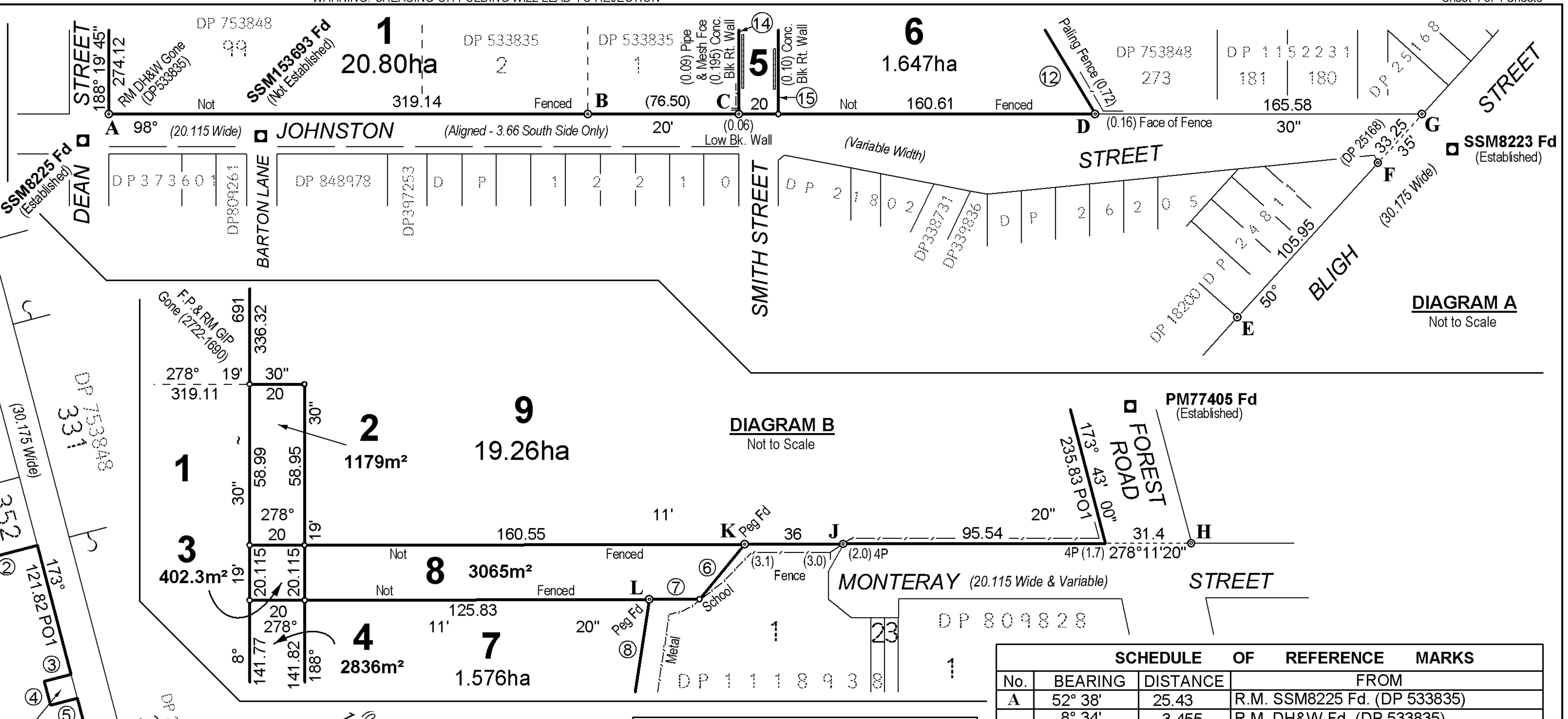
SECOND SCHEDULE (continued)

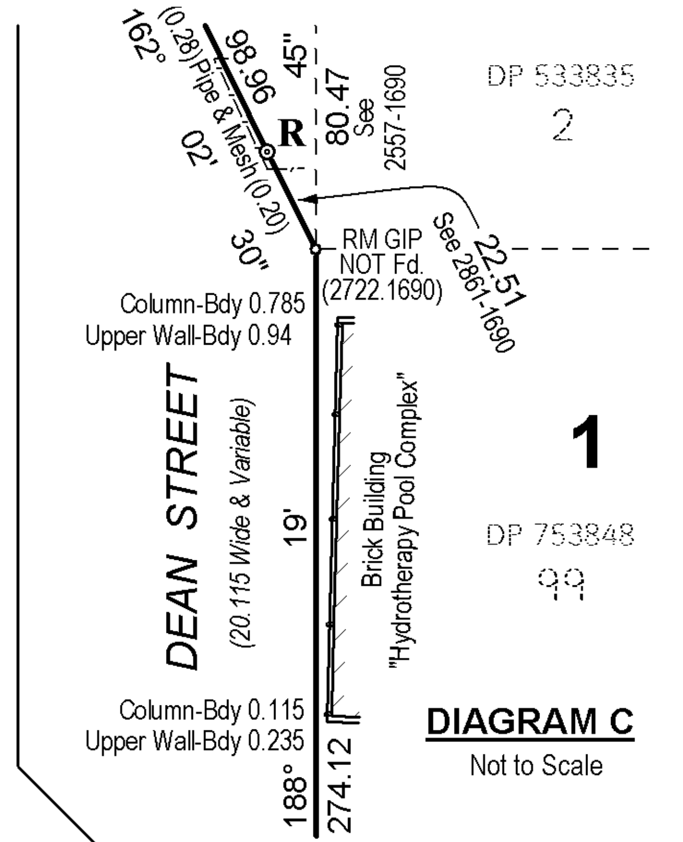
INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION

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

CLAUSE 42 CONNECTIONS			
No.	BEARING	DISTANCE	FROM
A	289°34'30"	84.875	SSM153693 Fd.
D	282°57'50"	191.94	SSM8223 Fd.
G	309°20'20"	30.03	SSM8223 Fd.







SCHEDULE OF SHORT LINES		
NUMBER	BEARING	DISTANCE
1	263°43'10"	52.82 PO1
2	83°43'10"	64.37 PO1
3	263°43'	25.305 PO1
4	173°43'	22.61 PO1
5	83°43'	25.305 PO1
6	227°32'40"	26.02
7	278°11'20"	18.27
8	197°11'20"	57.37
9	208°36'20"	35.43
10	198°43'20"	53.1
11	198°43'20"	5.39
12	167°07'20"	51.34
13	157°37'30"	93.81
14	8°19'30"	133.8
15	8°19'30"	133.8
16	98°20'30"	95.12
17	188°19'30"	141.82
18	98°20'30"	20
19	8°19'30"	141.77

SCHEDULE OF REFERENCE MARKS			
No.	BEARING	DISTANCE	FROM
A	52° 38'	25.43	R.M. SSM8225 Fd. (DP 533835)
B	8° 34'	3.455	R.M. DH&W Fd. (DP 533835)
	8° 34'	3.44	R.M. DH&W Fd. By Survey
C	66° 35'	6.545	R.M. DH&W in Top of Kerb (TK)
	355° 49' 20"	19.155	R.M. DH&W in TK
			R.M. G.I.PIPE GONE (DP 533835)
D	8° 06'	0.89	R.M. G.I.PIPE
E	320° 35'	0.76	R.M. G.I.PIPE Fd. (DP 24811)
F	320° 35'	0.455	R.M. G.I.PIPE Fd. Leaning (DP 24811)
	317° 22'	0.435	R.M. G.I.PIPE Fd. By Survey
G	344° 29'	0.495	R.M. G.I.PIPE Fd. 0.45 DEEP (DP 25168)
H	98° 04'	0.46	R.M. G.I.PIPE Fd. (2596-1690)
J	355° 20'	5.96	R.M. DH&W Fd. (DP 1118938)
	355° 28'	5.94	R.M. DH&W Fd. By Survey
K	334° 55'	4.65	R.M. DH&W Fd. (DP 1118938)
	334° 55'	4.61	R.M. DH&W Fd. By Survey
L	103° 13'	1.03	R.M. G.I.PIPE Fd. (DP 1118938)
M	188° 20'	1.005	R.M. G.I.PIPE Fd. (2722-1690)
N	98° 15'	1.005	R.M. G.I.PIPE Fd. (2722-1690)
P	42° 54'	1.005	R.M. G.I.PIPE Fd. (2722-1690)
R	72° 03'	1.0	R.M. G.I.PIPE Fd. (DP 48401)

PERMANENT MARK CONNECTIONS

FROM	TO	CONNECTION
SSM8225	PM77405	70°14'51" - 755.963 By Survey
		70°14'51" - 755.977 By MGA Ground
PM77405	SSM8242	173°38'11" - 299.001 By Survey
		173°38'02" - 299.004 By MGA Ground
SSM8242	SSM8223	216°16'45" - 72.509 By Survey
		216°16'51" - 72.514 By MGA Ground
SSM8223	SSM153693	278°14'30" - 607.813 By Survey
SSM153693	SSM8225	277°23'40" - 101.022 By Survey
SSM8225	SSM8223	98°07'15" - 708.826 By Survey
		278°07'13" - 708.846 By MGA Ground

SURVEYING & SPATIAL INFORMATION REGULATION 2012
CLAUSES 35(1)[b] & 61(2)

MARK	M.G.A. CO-ORDINATES EASTING	NORTHING	ZONE	CLASS	ORDER	METHOD	ORIGIN
SSM8223	302 541.660	6 560 096.508	56	C	3	Fd.	SCIMS
SSM8225	301 839.912	6 560 196.636	56	A	1	Fd.	SCIMS
SSM8242	302 584.570	6 560 154.964	56	C	3	Fd.	SCIMS
SSM153693	301 940.107	6 560 183.641	56	U	U	Fd.	Cadastral Traverse
PM77405	302 551.416	6 560 452.128	56	A	1	Fd.	SCIMS

SOURCE: COMBINED SCALE FACTOR: 1.000012
M.G.A. CO-ORDINATES ADOPTED FROM S.C.I.M.S. AT 17.10.2012

PO1 = See DP1180579
PO2 = See 2722-1690 & 2724-1690

DATUM LINE: SSM8225 - PM77405

SURVEYOR: DARYL JAMES BATH
BATH STEWART ASSOCIATES PTY LTD
SURVEYOR'S REF: 12218V04
DATE OF SURVEY: 20th November 2012

PLAN OF ACQUISITION OF LOTS 1 & 2 IN DP 533835, LOTS 99, & 335 IN DP 753848, PART OF LOTS 108 & 109 IN DP753848, PART OF LOT 1 IN DP 1175412, & PART OF LOT 7008 IN DP1076546

LGA: TAMWORTH REGIONAL
LOCALITY: NORTH TAMWORTH
SUBDIVISION NO: ——
LENGTHS ARE IN METRES
REDUCTION RATIO 1:3500

Registered:
15.1.2013

DP1181268

PLAN FORM 6 (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 15.1.2013

Title System: TORRENS

Purpose: ACQUISITION

Office Use Only

DP1181268

PLAN OF ACQUISITION OF LOTS 1 & 2 IN DP533835, LOTS 99 & 335 IN DP753848, PART OF LOTS 108 & 109 IN DP753848, PART LOT 1 IN DP1175412, & PART OF LOT 7008 IN DP1076546

LGA: TAMWORTH REGIONAL

Locality: North Tamworth

Parish: Tamworth

County: Inglis

Crown Lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, ...

*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: .....

Consent Authority: **TAMWORTH REGIONAL COUNCIL**.....

Date of endorsement: .....

Subdivision Certificate number: .....

File number: .....

*Strike through if inapplicable.

Survey Certificate

I, **DARYL JAMES BATH**

of **BATH, STEWART ASSOCIATES Pty Ltd**

PO Box 403, Tamworth NSW 2340 (Tel: 02 6766-5966)

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

~~*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on .....~~

*(b) The part of the land shown in the plan excluding part of Lot 9 was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on, 20th November 2012. The part not surveyed was compiled in accordance with that Regulation.

*(c) ~~The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: ..... Dated: **22.11.2012**...

Surveyor ID: **1307**

Datum Line: **SSM8225 – PM77405**

Type: **Urban**

The terrain is *Level-Undulating / ~~*Steep-Mountainous.~~

*Strike through if inapplicable. ^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads, public reserves and drainage reserves.

IT IS INTENDED TO ACQUIRE LOTS 1 TO 5, INCLUSIVE, FOR THE PURPOSES OF THE HEALTH ADMINISTRATION ACT 1982, AS REFERRED TO BY NOTICE IN THE NSW GOVERNMENT GAZETTE No. 130 FOLIO 5244 DATED 21.12.2012.

Plans used in the preparation of survey/compilation.

DP12210	DP533835	DP1152231	2861-1690	46-1393
DP21802	DP602489	DP1175412	2134-1690	
DP24811	DP712550	DP1180579	2722-1690	
DP25168	DP809828	1793-1690	2724-1690	
DP26205	DP1076546	2147-1690	2596-1690	
DP48401	DP1099608	2149-1690	2796-1690	
DP257195	DP1118938	2557-1690	43-1393	

If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference: **12218V04**

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 15.1.2013

Office Use Only

DP1181268

PLAN OF ACQUISITION OF LOTS 1 & 2 IN DP533835, LOTS 99 & 335 IN DP753848, PART OF LOTS 108 & 109 IN DP753848, PART LOT 1 IN DP1175412, & PART OF LOT 7008 IN DP1076546

Subdivision Certificate number: .....

Date of Endorsement: .....

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Lot	Street Number	Street Name	Street Type	Locality
1	NA		Street	North Tamworth
2	NA	Johnston	Street	North Tamworth
3	NA	NA	NA	North Tamworth
4	NA	NA	NA	North Tamworth
5	NA	Johnston	Street	North Tamworth
6	NA	Johnston	Street	North Tamworth
7	NA	NA	NA	North Tamworth
8	NA	NA	NA	North Tamworth
9	NA	Forest	Road	North Tamworth

If space is insufficient use additional annexure sheet

Surveyor's Reference: **12218V04**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/2/2021 9:03AM

FOLIO: 1/533835

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11118 FOL 235

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
4/7/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/12/1995	O760325	TRANSFER	EDITION 1
28/3/1996	O792878	LEASE	EDITION 2
23/6/1998	5074693	SURRENDER OF LEASE	EDITION 3
7/1/2013	AH466802	DEPARTMENTAL DEALING	
15/1/2013	DP1181268	DEPOSITED PLAN	
24/6/2013	AH622164	REQUEST	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/2/2021 9:03AM

FOLIO: 1/1181268

First Title(s): VOL 5159 FOL 106 VOL 601 FOL 193
VOL 4517 FOL 90
Prior Title(s): 1-2/533835 99/753848
335/753848

Recorded	Number	Type of Instrument	C.T. Issue
15/1/2013	DP1181268	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
24/6/2013	AH827345	DEPARTMENTAL DEALING	FOLIO CREATED EDITION 1
23/4/2014	DP1195542	DEPOSITED PLAN	
20/5/2015	AJ356883	TRANSFER GRANTING EASEMENT	EDITION 2
23/5/2017	AM412160	LEASE	EDITION 3
19/7/2018	AN471831	APPLICATION FOR RECORDING OF ACTION AFFECTING CROWN HOLDING	
4/8/2020	AQ294846	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/2/2021 9:03AM

FOLIO: 2/533835

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11100 FOL 35

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
30/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
10/5/1989	Y342683	LEASE	EDITION 1
13/1/1998	3726462	LEASE	EDITION 2
9/3/1998	3841863	CHANGE OF NAME	EDITION 3
19/7/1999	5994173	LEASE	EDITION 4
7/1/2013	AH466802	DEPARTMENTAL DEALING	
15/1/2013	DP1181268	DEPOSITED PLAN	
24/6/2013	AH622164	REQUEST	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/2/2021 9:03AM

FOLIO: 99/753848

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 601 FOL 193

Recorded	Number	Type of Instrument	C.T. Issue
15/2/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
29/1/1991		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
2/5/1991		AMENDMENT: TITLE DIAGRAM	
2/12/1997	3630592	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 1
13/1/1998	3726462	LEASE	EDITION 2
9/3/1998	3841863	CHANGE OF NAME	EDITION 3
19/7/1999	5994173	LEASE	EDITION 4
8/1/2001	7324434	DEPARTMENTAL DEALING	
7/1/2013	AH466802	DEPARTMENTAL DEALING	
15/1/2013	DP1181268	DEPOSITED PLAN	
24/6/2013	AH622164	REQUEST	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
23/2/2021 9:03AM

FOLIO: 335/753848

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 5159 FOL 106

Recorded	Number	Type of Instrument	C.T. Issue
21/2/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
28/6/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
2/5/1991		AMENDMENT: TITLE DIAGRAM	
7/1/2013	AH466802	DEPARTMENTAL DEALING	
15/1/2013	DP1181268	DEPOSITED PLAN	
24/6/2013	AH622164	REQUEST	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/1181268

SEARCH DATE	TIME	EDITION NO	DATE
23/2/2021	9:03 AM	3	23/5/2017

LAND

LOT 1 IN DEPOSITED PLAN 1181268
AT NORTH TAMWORTH
LOCAL GOVERNMENT AREA TAMWORTH REGIONAL
PARISH OF TAMWORTH COUNTY OF INGLIS
TITLE DIAGRAM DP1181268

FIRST SCHEDULE

HEALTH ADMINISTRATION CORPORATION

SECOND SCHEDULE (3 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS OF THE PART(S) FORMERLY IN LOT 355 IN DP753848, LOT 1 IN DP533835 & LOT 2 IN DP533835
2 AJ356883 EASEMENT FOR UNDERGROUND POWER LINES 2 WIDE AFFECTING THE PART SHOWN AS "PROPOSED EASEMENT FOR UNDERGROUND POWER LINES 2 WIDE" IN DP1195542.
3 AM412160 LEASE TO HS CATERER PTY LTD OF SHOP 1. CAFE SHOP 2 & CANCER CLINIC SHOP 3, 31 DEAN STREET, TAMWORTH. EXPIRES: 31/5/2021. OPTION OF RENEWAL: 5 YEARS.

NOTATIONS

NOTE: THIS FOLIO MAY BE ASSOCIATED WITH A CROWN TENURE WHICH IS SUBJECT TO PAYMENT OF AN ANNUAL RENT. FOR FURTHER DETAILS CONTACT CROWN LANDS.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 23/2/2021

1976

1984

1989

Google Earth 2013

Google Earth 2015

Feb 2016

October 2017

March 2020


3/2020
Dean St
Dean St
Johnston St
Image © 2022 Maxar Technologies

2022

Appendix B

Results of Field Investigations

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - TEST PIT

TEST PIT NO: TP-N1

CLIENT: RP Infrastructure | **PAGE:** 1 of 1

PROJECT NAME: Proposed Ongrade Parks | **JOB NO:** RGS32576.1

SITE LOCATION: Tamworth Hospital | **LOGGED BY:** LD

TEST LOCATION: North Site | **DATE:** 28/9/22

EQUIPMENT TYPE: 5T Excavator | **EASTING:** 301927 m | **SURFACE RL:**

TEST PIT LENGTH: 0.3 m | **WIDTH:** 2.0 m | **NORTHING:** 6560588 m | **DATUM:** AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.05m ES 0.10m				Cl	**FILL:** Gravelly CLAY, medium plasticity, brown, fine grained, with rootlets			DCP (0.00-1.30m)	3	FILL
							0.10m					
				0.2		CH	**FILL:** Silty CLAY, medium to high plasticity, grey-brown, fine to medium grained, angular gravel	M > w_P	St		3	
											2	
				0.4							3	
											5	
				0.6							5	
							0.60m					
						Cl	**FILL:** Gravelly CLAY, medium plasticity, red-brown, fine to coarse grained gravel, with rounded cobbles up to 150mm				2	
											2	
		0.80m ES 0.90m		0.8			0.80m					
						Cl	**CLAY:** Medium plasticity, pale brown, with some gravel, fine to medium grained, angular	M < w_P	VSt - H		2	COLLUVIUM
				1.0							3	
											4	
				1.2							7	
							1.30m				14	
							Hole Terminated at 1.30 m					
				1.4								
				1.6								
				1.8								

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 - TEST PIT

REGIONAL GEOTECHNICAL SOLUTIONS

TEST PIT NO: TP-N2

CLIENT: RP Infrastructure
PAGE: 1 of 1
PROJECT NAME: Proposed Ongrade Parks
JOB NO: RGS32576.1
SITE LOCATION: Tamworth Hospital
LOGGED BY: LD
TEST LOCATION: North Site
DATE: 28/9/22

EQUIPMENT TYPE: 5T Excavator
EASTING: 301904 m
SURFACE RL:
TEST PIT LENGTH: 0.3 m
WIDTH: 2.0 m
NORTHING: 6560535 m
DATUM: AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.20m		0.2		CI	**FILL:** Sandy CLAY, medium plasticity, brown, fine to medium grained, with some gravel, fine to medium grained, with rootlets					FILL
						CH	0.10m **FILL:** Silty CLAY, medium to high plasticity, brown, pale brown, grey, some gravel, fine to medium grained, angular	M > w_P	St - VSt			HP=230kPa
		B		0.4								HP=250kPa
		0.60m		0.6								
				0.8								
				1.0			1.00m					
						CI	**Silty CLAY:** Medium plasticity, red-brown	M < w_P	VSt - H			COLLUVIUM
				1.2								HP=300kPa
				1.4			1.40m					
							Hole Terminated at 1.40 m					HP=450kPa
				1.6								
				1.8								

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 - TEST PIT

REGIONAL GEOTECHNICAL SOLUTIONS

CLIENT:	RP Infrastructure	**TEST PIT NO:**	**TP-N3**
PROJECT NAME:	Proposed Ongrade Parks	**PAGE:**	1 of 1
SITE LOCATION:	Tamworth Hospital	**JOB NO:**	RGS32576.1
TEST LOCATION:	North Site	**LOGGED BY:**	LD
		DATE:	28/9/22

EQUIPMENT TYPE:	5T Excavator		**EASTING:**	301902 m	**SURFACE RL:**
TEST PIT LENGTH:	0.3 m	**WIDTH:**	2.0 m	**NORTHING:** 6560542 m	**DATUM:** AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.10m ES 0.20m		0.2		Cl	**TOPSOIL:** Gravelly CLAY, medium plasticity, brown, fine grained, angular gravel, with some roots 0.20m					TOPSOIL
		0.30m B 0.60m		0.4 0.6		Cl	**Silty CLAY:** Medium plasticity, brown, with some gravel, fine to medium grained, angular	M > w_P	St			COLLUVIUM HP=200kPa HP=150kPa
		0.90m ES 1.00m		0.8 1.0		Cl	**Gravelly CLAY:** Medium plasticity, red-brown, fine to medium grained, angular gravel 0.90m	M < w_P	VSt			HP=350kPa
				1.2			Hole Terminated at 1.20 m 1.20m					
				1.4								
				1.6								
				1.8								

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: BH-N4

CLIENT:	RP Infrastructure	**PAGE:**	1 of 1
PROJECT NAME:	Proposed Ongrade Parks	**JOB NO:**	RGS32576.1
SITE LOCATION:	Tamworth Hospital	**LOGGED BY:**	LD
TEST LOCATION:	North Site	**DATE:**	28/9/22

DRILL TYPE: Hand Auger **EASTING:** 301902 m **SURFACE RL:**

BOREHOLE DIAMETER: 100 mm **INCLINATION:** 90° **NORTHING:** 6560521 m **DATUM:** AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
HA				0.2		Cl	**FILL:** Gravelly CLAY, medium plasticity, dark brown	M > w_P	St	DCP (0.00-1.40m)	2	FILL
											2	
											2	
				0.4		Cl	**Gravelly CLAY:** Medium plasticity, pale brown, fine to medium grained, angular gravel				2	COLLUVIUM
											2	
				0.6							3	Increased moisture form 0.5m
	▶								VSt		7	
				0.8							6	
											4	
				1.0							5	
							Hole Terminated at 1.00 m				4	
				1.2							6	
											8	
				1.4							8	
				1.6								
				1.8								

0.30m

1.00m

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 - TEST PIT

REGIONAL GEOTECHNICAL SOLUTIONS

TEST PIT NO: TP-S1

CLIENT: RP Infrastructure | **PAGE:** 1 of 1

PROJECT NAME: Proposed Ongrade Parks | **JOB NO:** RGS32576.1

SITE LOCATION: Tamworth Hospital | **LOGGED BY:** LD

TEST LOCATION: South Site | **DATE:** 28/9/22

EQUIPMENT TYPE: 5T Excavator | **EASTING:** 301959 m | **SURFACE RL:**

TEST PIT LENGTH: 0.3 m | **WIDTH:** 2.0 m | **NORTHING:** 6560228 m | **DATUM:** AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.05m ES 0.10m 0.20m ES 0.35m 0.40m B 0.70m ES 0.80m		0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8		CI	**FILL:** Gravelly CLAY, medium plasticity, brown, fine to coarse grained gravel, angular, with some foreign material including wire and concrete	M < w_P		DCP (0.00-1.20m)	2 3 3 2 3 4 9	FILL
					0.70m	CI	**Gravelly CLAY:** Medium plasticity, pale brown, fine to medium grained, angular gravel		VSt		3 4 4 5 7	COLLUVIUM HP=250kPa
					1.20m		Hole Terminated at 1.20 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 - TEST PIT

REGIONAL GEOTECHNICAL SOLUTIONS

TEST PIT NO: TP-S2

CLIENT: RP Infrastructure
PAGE: 1 of 1
PROJECT NAME: Proposed Ongrade Parks
JOB NO: RGS32576.1
SITE LOCATION: Tamworth Hospital
LOGGED BY: LD
TEST LOCATION: South Site
DATE: 28/9/22

EQUIPMENT TYPE: 5T Excavator
EASTING: 301943 m
SURFACE RL:
TEST PIT LENGTH: 0.3 m
WIDTH: 2.0 m
NORTHING: 6560219 m
DATUM: AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.20m ES 0.30m		0.2 0.4		Cl	**FILL:** CLAY, medium plasticity, dark brown, with some fine to coarse grained gravel, with some foreign material including broken tiles, timber and wire	M < w_P	St - VSt	DCP (0.00-1.10m)	3 3 3 5 4	FILL HP=250kPa
				0.6 0.8 1.0 1.2		Cl	**Silty CLAY:** Medium plasticity, pale brown, with some gravel, fine to medium grained, angular		VSt - H		2 2 4 6 10 12	COLLUVIUM HP=300kPa HP=>600kPa
				1.4 1.6 1.8			Hole Terminated at 1.20 m					

0.50m
1.20m

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 - TEST PIT

TEST PIT NO: TP-S3

CLIENT: RP Infrastructure
PAGE: 1 of 1
PROJECT NAME: Proposed Ongrade Parks
JOB NO: RGS32576.1
SITE LOCATION: Tamworth Hospital
LOGGED BY: LD
TEST LOCATION: South Site
DATE: 28/9/22

EQUIPMENT TYPE: 5T Excavator
EASTING: 301936 m
SURFACE RL:
TEST PIT LENGTH: 0.3 m
WIDTH: 2.0 m
NORTHING: 6560221 m
DATUM: AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.10m ES 0.20m 0.30m B 0.60m		0.2 0.4 0.6 0.8 1.0 1.2		ML 0.30m CI 1.20m	**FILL:** Clayey SILT, low plasticity, dark brown, with rootlets **Silty CLAY:** Medium plasticity, pale brown, grey, with some gravel, fine to medium grained, angular	M > w_P M < w_P		DCP (0.00-1.00m)	2 2 5 7 4 3 3 5 5 15	TOPSOIL COLLUVIUM
				1.4 1.6 1.8			Hole Terminated at 1.20 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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - TEST PIT

TEST PIT NO: TP-S4

CLIENT: RP Infrastructure | **PAGE:** 1 of 1

PROJECT NAME: Proposed Ongrade Parks | **JOB NO:** RGS32576.1

SITE LOCATION: Tamworth Hospital | **LOGGED BY:** LD

TEST LOCATION: South Site | **DATE:** 28/9/22

EQUIPMENT TYPE: 5T Excavator | **EASTING:** 301901 m | **SURFACE RL:**

TEST PIT LENGTH: 0.3 m | **WIDTH:** 2.0 m | **NORTHING:** 6560216 m | **DATUM:** AHD

Excavation and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
E	Not Encountered	0.10m				Cl	**FILL:** Silty Sandy CLAY, medium plasticity, dark brown, fine grained sand, with roots and foreign material including wire	$M < w_P$	St	DCP (0.00-1.40m)	3	FILL
		ES 0.20m		0.2							2	
											2	
											2	
				0.4		Cl	0.35m **CLAY:** Medium plasticity, pale brown, with some gravel, fine to medium grained, angular				2	COLLUVIUM
		0.50m									3	
		ES 0.60m		0.6							3	
											1	
		0.80m		0.8			0.80m **SILTSTONE:** Pale brown				2	
		B 1.00m		1.0			1.00m				2	HIGHLY TO MODERATELY WEATHERED SILTSTONE Highly fractured Low strength
											3	
							Hole Terminated at 1.00 m				5	
				1.2							5	
											6	
				1.4							8	
				1.6								
				1.8								

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: BH-S5

CLIENT: RP Infrastructure
PROJECT NAME: Proposed Ongrade Parks
SITE LOCATION: Tamworth Hospital
TEST LOCATION: South Site

PAGE: 1 of 1
JOB NO: RGS32576.1
LOGGED BY: LD
DATE: 28/9/22

DRILL TYPE: Hand Auger
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
EASTING: 301869 m
NORTHING: 6560212 m
SURFACE RL:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
HA	Not Encountered	0.10m ES 0.20m		0.2 0.4		Cl	**FILL:** Gravelly CLAY, medium plasticity, brown, fine to medium grained gravel, angular 0.50m	M < w_P		DCP (0.00-1.30m)	2 8 6 4 5	FILL
				0.6 0.8 1.0 1.2 1.4 1.6 1.8			Hole Terminated at 0.50 m				8 3 3 3 3 5 9 10	

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: BH-S6

CLIENT: RP Infrastructure
PAGE: 1 of 1
PROJECT NAME: Proposed Ongrade Parks
JOB NO: RGS32576.1
SITE LOCATION: Tamworth Hospital
LOGGED BY: LD
TEST LOCATION: South Site
DATE: 28/9/22

DRILL TYPE: Hand Auger
EASTING: 301883 m
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING: 6560246 m
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (Not measured)	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
HA	Not Encountered	0.10m ES 0.20m		0.2		Cl	**FILL:** Sandy CLAY, medium plasticity, dark brown, fine to medium grained sand	M > w_P		DCP (0.00-1.00m)	2	FILL
							0.25m				3	
				0.4		Cl	**FILL:** Gravelly CLAY, medium plasticity, brown, with roots				3	
											3	
				0.6			0.60m				2	
						Cl	**Silty CLAY:** Medium plasticity, pale brown, with some gravel, fine to medium grained, angular	M < w_P			2	COLLUVIUM
				0.8							3	
											5	
				1.0			1.00m				15	
							Hole Terminated at 1.00 m					
				1.2								
				1.4								
				1.6								
				1.8								

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

Appendix C

Laboratory Test Result Sheets

REGIONAL GEOTECHNICAL SOLUTIONS

Client: RP Infrastructure
Job No. RGS32567.1-AR
Project: Tamworth Health Service Redevelopment: Proposed On-grade Carparks
Location: Dean Street, Tamworth

Location	DEPTH (m)	MATERIAL	ASBESTOS	TOTAL RECOVERABLE HYDROCARBONS					PAH		BTEX	PCB	Pesticides		HEAVY METALS						
			Present	C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40	Total	b-a-p			OC	OP	As	Cd	Cr#	Cu	Pb	Ni	Zn	Hg
TP-N1	0.05-0.1	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	15	24	10	11	54	<0.1
TP-N2	0.05-0.1	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	8	<1	14	33	8	12	60	<0.1
TP-N3	0.9-1.0	Colluvial Soil	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	10	<1	12	35	8	9	63	<0.1
TP-N4	0.1-0.2	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	5	<1	16	27	27	11	85	<0.1
TP-N5	0.05-0.1	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	7	<1	14	28	14	11	83	<0.1
TP-N6	0.1-0.2	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	8	<1	16	37	24	14	94	<0.1
TP-N7	0.05-0.1	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	13	17	6	10	30	<0.1
TP-N8	0.05-0.1	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	7	<1	14	32	8	13	58	<0.1
TP-S1	0.3-0.35	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	12	42	10	12	78	<0.1
TP-S2	0.2-0.3	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	12	40	11	11	79	<0.1
TP-S3	0.1-0.2	Topsoil	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	5	<1	24	35	14	22	71	<0.1
TP-S4	0.1-0.2	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	28	30	22	25	63	<0.1
TP-S5	0.1-0.2	Fill	No	<10	<10	100	<100	100	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	26	35	27	21	71	<0.1
TP-S6	0.1-0.2	Fill	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	5	<1	22	30	12	18	52	<0.1
TP-S7	0.1-0.2	Colluvial Soil	No	<10	<10	200	150	350	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	21	30	22	18	85	<0.1
TP-S8	0.05-0.1	Colluvial Soil	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	<5	<1	23	31	9	14	63	<0.1
TP-S9	0.1-0.2	Colluvial Soil	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	<5	<1	28	30	14	25	60	<0.1
TP-S10	0.1-0.2	Colluvial Soil	No	<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	<5	<1	13	44	12	11	90	<0.1
N-D1 (duplicate of TP-N4 0.1-0.2m)	0.1-0.2	Fill		<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	7	<1	18	26	28	12	78	<0.1
N-T1 (triplicate of TP-N4 0.1-0.2m)	0.1-0.2	Fill		<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	9	<0.5	19	29	31	15	96	<0.1
S-D1 (duplicate of TP-S5 0.1-0.2m)	0.1-0.1	Fill		<10	<10	<100	<100	<50	<0.5	<0.5	<0.2	<0.1	<0.2	<0.2	6	<1	24	34	22	21	67	<0.1
S-T1 (triplicate of TP-S5 0.1-0.2m)	0.1-0.2	Fill		<10	<10	96	<100	<50	2.6	0.3	<0.2	<0.1	<0.2	<0.2	7	<0.5	26	35	23	23	73	<0.1
N-D1 RPD (%)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	11.7	3.8	3.6	8.7	8.6	0.0
N-T1 RPD (%)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	0.0	17.1	7.1	13.8	30.8	12.1	0.0
S-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	8.0	2.9	20.4	0.0	5.8	0.0
S-T1 RPD (%)				0.0	0.0	4.0	0.0	0.0	130.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0	0.0	0	16	9.1	2.8	0.0
Health Based Soil investigation Level (HIL)*:									400	4	NL	1	10	10	500	150	500#	30000	1200	1200	60000	120
Health Screening Level (HSL)**:				F1=45(0-<1m) F1=70 (1-<2m) F1=110 (2-<4m)	F2=110 (0-<1m) F2=240 (1-<2m) F2=440 (2-<4m)																	
Ecological Investigation Level (EIL)***:															100				1100			
Ecological Screening Level (ESL)****:				215	170	1700	3300			0.7	50				**Coarse grained soil in mg/kg**							
				215	170	2500	6600			0.7	65				**Fine grained soil in mg/kg**							
Management Limits				700	1000	2500	10000								**Coarse grained soil in mg/kg**							
				800	1000	3500	10000								**Fine grained soil in mg/kg**							

NOTES:

Denotes concentration exceeds health based guideline for Residential B land use

Denotes concentration exceeds ecological guideline for Residential B land use

Denotes concentration exceeds management Limits for Residential or Recreational land use

Denotes concentration exceeds health and ecological based guideline for Residential B land use

NL No Limit available

LOR Limit of Reporting

* Health Based Investigation Levels for Reseidential B (NEPM 2013)
**Health Screening Level (F1 & F2) for Residential B land use and coarse grained soil (sand) (NEPM 2013)
** Ecological Investigation Level - for Residential B land use
*** Ecological Screening Level for Residential B land use and fine grained soil
#Chromium VI
Speciation testing confirmed only Chromium III present

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2234920**	Page	: 1 of 27
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: LOUIS DAVIDSON	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	: RGS32576.1 PROPOSED CARPARK B Upgrades	Date Samples Received	: 29-Sep-2022 13:28
Order number	: ----	Date Analysis Commenced	: 30-Sep-2022
C-O-C number	: ----	Issue Date	: 07-Oct-2022 17:26
Sampler	: ----		
Site	: Tamworth Hospital		
Quote number	: EN/222		
No. of samples received	: 38		
No. of samples analysed	: 38		

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*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, 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 Contract 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.
- 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	TP-N1 0.05-0.1	TP-N2 0.05-0.1	TP-N3 0.9-1	TP-N4 0.1-0.2	TP-N5 0.05-0.1
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-001	ES2234920-002	ES2234920-003	ES2234920-004	ES2234920-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	**260**	**225**	**343**	**255**	**183**
APPROVED IDENTIFIER:	----	-	--	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-N6 0.1-0.2	TP-N7 0.05-0.1	TP-N8 0.05-0.1	TP-S1 0.3-0.35	TP-S2 0.2-0.3
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-006	ES2234920-007	ES2234920-008	ES2234920-009	ES2234920-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	**195**	**442**	**423**	**342**	**224**
APPROVED IDENTIFIER:	----	-	--	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S3 0.1-0.2	TP-S4 0.1-0.2	TP-S5 0.1-0.2	TP-S6 0.1-0.2	TP-S7 0.1-0.2
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-011	ES2234920-012	ES2234920-013	ES2234920-014	ES2234920-015
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	**211**	**235**	**259**	**312**	**108**
APPROVED IDENTIFIER:	----	-	--	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**	**J.SPOONER**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S8 0.05-0.1	TP-S9 0.1-0.2	TP-S10 0.1-0.2	TP-N1 0.05-0.1	TP-N2 0.05-0.1
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-016	ES2234920-017	ES2234920-018	ES2234920-019	ES2234920-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	----	----	17.4	16.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	----
Asbestos Type	1332-21-4	-	--	-	-	-	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	----
Organic Fibre	----	0.1	g/kg	No	No	No	----	----
Sample weight (dry)	----	0.01	g	254	261	218	----	----
APPROVED IDENTIFIER:	----	-	--	J.SPOONER	J.SPOONER	J.SPOONER	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	6	8
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	15	14
Copper	7440-50-8	5	mg/kg	----	----	----	24	33
Lead	7439-92-1	5	mg/kg	----	----	----	10	8
Nickel	7440-02-0	2	mg/kg	----	----	----	11	12
Zinc	7440-66-6	5	mg/kg	----	----	----	54	60
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	TP-S8 0.05-0.1	TP-S9 0.1-0.2	TP-S10 0.1-0.2	TP-N1 0.05-0.1	TP-N2 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
					ES2234920-016	ES2234920-017	ES2234920-018	ES2234920-019	ES2234920-020
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	----	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		----	----	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	----	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	----	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	----	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	----	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	----	----	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	----	----	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	----	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	----	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	----	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	----	----	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	----	----	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	----	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	----	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		----	----	----	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	----	----	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	----	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		----	----	----	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	TP-S8 0.05-0.1	TP-S9 0.1-0.2	TP-S10 0.1-0.2	TP-N1 0.05-0.1	TP-N2 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
					ES2234920-016	ES2234920-017	ES2234920-018	ES2234920-019	ES2234920-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	----	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	----	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	----	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		----	----	----	**0.6**	**0.6**
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		----	----	----	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg		----	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg		----	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg		----	----	----	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		----	----	----	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		----	----	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		----	----	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		----	----	----	<50	<50

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	TP-S8 0.05-0.1	TP-S9 0.1-0.2	TP-S10 0.1-0.2	TP-N1 0.05-0.1	TP-N2 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
					ES2234920-016	ES2234920-017	ES2234920-018	ES2234920-019	ES2234920-020
					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
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		----	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		----	----	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	**87.4**	**96.5**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	**84.7**	**93.0**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	**100**	**108**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	**98.5**	**92.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	**99.4**	**92.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	**72.2**	**62.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	**104**	**98.9**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	**99.2**	**93.4**
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	**105**	**99.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	**82.3**	**87.6**
Toluene-D8	2037-26-5	0.2	%		----	----	----	**90.4**	**97.9**
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	**86.1**	**92.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-N3 0.9-1	TP-N4 0.1-0.2	TP-N5 0.05-0.1	TP-N6 0.1-0.2	TP-N7 0.05-0.1
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-021	ES2234920-022	ES2234920-023	ES2234920-024	ES2234920-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.2	14.5	21.9	12.5	4.9
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	5	7	8	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	16	14	16	13
Copper	7440-50-8	5	mg/kg	35	27	28	37	17
Lead	7439-92-1	5	mg/kg	8	27	14	24	6
Nickel	7440-02-0	2	mg/kg	9	11	11	14	10
Zinc	7440-66-6	5	mg/kg	63	85	83	94	30
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	TP-N3 0.9-1	TP-N4 0.1-0.2	TP-N5 0.05-0.1	TP-N6 0.1-0.2	TP-N7 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-021	ES2234920-022	ES2234920-023	ES2234920-024	ES2234920-025
					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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-N3 0.9-1	TP-N4 0.1-0.2	TP-N5 0.05-0.1	TP-N6 0.1-0.2	TP-N7 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-021	ES2234920-022	ES2234920-023	ES2234920-024	ES2234920-025
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<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	<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 2013 Fractions									
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-N3 0.9-1	TP-N4 0.1-0.2	TP-N5 0.05-0.1	TP-N6 0.1-0.2	TP-N7 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-021	ES2234920-022	ES2234920-023	ES2234920-024	ES2234920-025
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	%		93.0	126	90.0	75.3	94.3
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		88.4	94.1	85.8	72.2	83.9
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		94.6	99.6	103	80.4	92.9
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		96.0	85.0	90.1	92.2	88.5
2-Chlorophenol-D4	93951-73-6	0.5	%		93.0	85.1	89.2	92.4	88.1
2.4.6-Tribromophenol	118-79-6	0.5	%		64.8	54.5	65.4	66.9	61.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		102	95.4	99.1	102	96.2
Anthracene-d10	1719-06-8	0.5	%		99.2	86.7	92.2	98.9	96.0
4-Terphenyl-d14	1718-51-0	0.5	%		101	95.2	99.9	106	96.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		82.9	81.6	87.2	90.2	87.9
Toluene-D8	2037-26-5	0.2	%		93.0	84.4	97.0	102	96.2
4-Bromofluorobenzene	460-00-4	0.2	%		89.9	86.1	90.1	96.4	94.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-N8 0.05-0.1	N-D1	TP-S1 0.3-0.35	TP-S2 0.2-0.3	TP-S3 0.1-0.2
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-026	ES2234920-027	ES2234920-028	ES2234920-029	ES2234920-030
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.9	19.0	16.0	16.4	16.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	7	6	6	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	18	12	12	24
Copper	7440-50-8	5	mg/kg	32	26	42	40	35
Lead	7439-92-1	5	mg/kg	8	28	10	11	14
Nickel	7440-02-0	2	mg/kg	13	12	12	11	22
Zinc	7440-66-6	5	mg/kg	58	78	78	79	71
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	TP-N8 0.05-0.1	N-D1	TP-S1 0.3-0.35	TP-S2 0.2-0.3	TP-S3 0.1-0.2
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-026	ES2234920-027	ES2234920-028	ES2234920-029	ES2234920-030
					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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-N8 0.05-0.1	N-D1	TP-S1 0.3-0.35	TP-S2 0.2-0.3	TP-S3 0.1-0.2
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-026	ES2234920-027	ES2234920-028	ES2234920-029	ES2234920-030
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<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	<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 2013 Fractions									
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-N8 0.05-0.1	N-D1	TP-S1 0.3-0.35	TP-S2 0.2-0.3	TP-S3 0.1-0.2
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-026	ES2234920-027	ES2234920-028	ES2234920-029	ES2234920-030
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	%		99.7	76.1	74.0	99.3	88.9
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		88.1	72.8	72.3	94.7	86.4
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		92.6	78.1	75.3	60.5	96.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		86.9	91.8	88.9	94.8	93.9
2-Chlorophenol-D4	93951-73-6	0.5	%		90.1	90.3	88.1	94.1	92.8
2.4.6-Tribromophenol	118-79-6	0.5	%		62.5	62.5	60.2	61.4	62.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.5	100	98.6	100	103
Anthracene-d10	1719-06-8	0.5	%		95.6	93.2	96.9	97.9	98.0
4-Terphenyl-d14	1718-51-0	0.5	%		98.8	99.8	98.4	100.0	99.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		97.2	74.4	80.6	77.1	78.0
Toluene-D8	2037-26-5	0.2	%		86.9	80.8	88.3	79.9	87.4
4-Bromofluorobenzene	460-00-4	0.2	%		76.0	77.3	84.8	81.2	84.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S4 0.1-0.2	TP-S5 0.1-0.2	TP-S6 0.1-0.2	TP-S7 0.1-0.2	TP-S8 0.05-0.1
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-031	ES2234920-032	ES2234920-033	ES2234920-034	ES2234920-035
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	12.3	17.6	13.6	33.1	14.7
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	6	5	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	28	26	22	21	23
Copper	7440-50-8	5	mg/kg	30	35	30	30	31
Lead	7439-92-1	5	mg/kg	22	27	12	22	9
Nickel	7440-02-0	2	mg/kg	25	21	18	18	14
Zinc	7440-66-6	5	mg/kg	63	71	52	85	63
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	TP-S4 0.1-0.2	TP-S5 0.1-0.2	TP-S6 0.1-0.2	TP-S7 0.1-0.2	TP-S8 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-031	ES2234920-032	ES2234920-033	ES2234920-034	ES2234920-035
					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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-S4 0.1-0.2	TP-S5 0.1-0.2	TP-S6 0.1-0.2	TP-S7 0.1-0.2	TP-S8 0.05-0.1
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit		ES2234920-031	ES2234920-032	ES2234920-033	ES2234920-034	ES2234920-035
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<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	<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	**150**	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	**140**	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	**290**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
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	**200**	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	**150**	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**100**	<50	**350**	<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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S4 0.1-0.2	TP-S5 0.1-0.2	TP-S6 0.1-0.2	TP-S7 0.1-0.2	TP-S8 0.05-0.1
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00
Compound	CAS Number	LOR	Unit	ES2234920-031	ES2234920-032	ES2234920-033	ES2234920-034	ES2234920-035
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
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	%	**90.8**	**86.0**	**78.1**	**101**	**92.7**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**86.8**	**88.8**	**69.1**	**88.5**	**83.9**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**104**	**120**	**93.8**	**117**	**88.7**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**94.8**	**95.1**	**90.7**	**94.6**	**89.4**
2-Chlorophenol-D4	93951-73-6	0.5	%	**95.4**	**96.4**	**93.4**	**92.6**	**88.7**
2.4.6-Tribromophenol	118-79-6	0.5	%	**60.1**	**72.1**	**63.5**	**72.6**	**63.9**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**98.3**	**104**	**102**	**102**	**97.2**
Anthracene-d10	1719-06-8	0.5	%	**104**	**97.3**	**97.8**	**93.8**	**92.2**
4-Terphenyl-d14	1718-51-0	0.5	%	**103**	**100**	**100**	**97.8**	**94.9**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**80.0**	**85.6**	**81.6**	**74.9**	**82.1**
Toluene-D8	2037-26-5	0.2	%	**84.9**	**96.4**	**95.2**	**83.5**	**94.4**
4-Bromofluorobenzene	460-00-4	0.2	%	**78.8**	**89.3**	**87.7**	**76.5**	**87.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S9 0.1-0.2	TP-S10 0.1-0.2	S-D1 0.1-0.2	----	----
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2234920-036	ES2234920-037	ES2234920-038	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	15.4	24.1	17.8	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	6	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	28	13	24	----	----
Copper	7440-50-8	5	mg/kg	30	44	34	----	----
Lead	7439-92-1	5	mg/kg	14	12	22	----	----
Nickel	7440-02-0	2	mg/kg	25	11	21	----	----
Zinc	7440-66-6	5	mg/kg	60	90	67	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<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	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S9 0.1-0.2	TP-S10 0.1-0.2	S-D1 0.1-0.2	----	----
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2234920-036	ES2234920-037	ES2234920-038	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP-S9 0.1-0.2	TP-S10 0.1-0.2	S-D1 0.1-0.2	----	----
				Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2234920-036	ES2234920-037	ES2234920-038	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TP-S9 0.1-0.2	TP-S10 0.1-0.2	S-D1 0.1-0.2	----	----
			Sampling date / time	29-Sep-2022 00:00	29-Sep-2022 00:00	29-Sep-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2234920-036	ES2234920-037	ES2234920-038	--------	--------
				Result	Result	Result	----	----
EP080: BTEXN - Continued								
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**114**	**104**	**101**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**103**	**95.5**	**94.4**	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**93.5**	**96.0**	**92.2**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**102**	**94.6**	**91.2**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**101**	**95.0**	**91.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**68.8**	**64.2**	**67.3**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**96.3**	**103**	**100**	----	----
Anthracene-d10	1719-06-8	0.5	%	**102**	**99.8**	**96.3**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**106**	**104**	**98.3**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**79.8**	**75.6**	**84.0**	----	----
Toluene-D8	2037-26-5	0.2	%	**88.5**	**87.2**	**99.7**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**82.9**	**83.8**	**91.4**	----	----

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	TP-N10.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N20.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N30.9-1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N40.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N50.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N60.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N70.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-N80.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S10.3-0.35 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S20.2-0.3 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S30.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S40.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S50.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S60.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S70.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S80.05-0.1 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S90.1-0.2 - 29-Sep-2022 00:00	Soil sample.
EA200: Description	TP-S100.1-0.2 - 29-Sep-2022 00:00	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

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

RESULTS OF SOIL ANALYSIS

2 samples supplied by Regional Geotechnical Solutions Pty Ltd on 30/09/2022. Lab Job No. N3232.
Samples submitted by Louis Davidson. Your Job: RGS32576.1.
1/21 Cook Drive COFFS HARBOUR NSW 2450

	Method	Sample 1 N-T1 0.1-0.2m	Sample 2 S-T1 0.1-0.2m
	Job No.	*N3232/1*	*N3232/2*
Arsenic (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	9	7
Lead (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	31	23
Cadmium (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	<0.5	<0.5
Chromium (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	19	26
Copper (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	29	35
Nickel (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	15	23
Zinc (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	96	73
Mercury (mg/kg)	1:3 Nitric/HCl digest - APHA 3125 ICPMS	<0.1	<0.1
PESTICIDE ANALYSIS SCREEN			
Hexachlorobenzene (HCB) (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Alpha BHC (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Lindane (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Heptachlor (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Aldrin (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Beta BHC (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Delta BHC (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Heptachlor epoxide (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
o,p'-DDE (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Alpha Endosulfan (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Gamma Chlordane (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Alpha Chlordane (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
trans-Nonachlor (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
p,p'-DDE (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Dieldrin (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Endrin (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
o,p'-DDD (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
o,p'-DDT (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Beta Endosulfan (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
p,p'-DDD (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
p,p'-DDT (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Endosulfan sulphate (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Endrin Aldehyde (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Methoxychlor (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Endrin Ketone (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Isodrin (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Mirex (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Total CLP OC Pesticides (mg/kg)	Subcontracted: SGS report SE 237445	<1	<1
Total OC VIC EPA (mg/kg)	Subcontracted: SGS report SE 237445	<1	<1
Dichlorvos (mg/kg)	Subcontracted: SGS report SE 237445	<0.5	<0.5
Dimethoate (mg/kg)	Subcontracted: SGS report SE 237445	<0.5	<0.5
Diazinon (Dimpylate) (mg/kg)	Subcontracted: SGS report SE 237445	<0.5	<0.5
Fenitrothion (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Malathion (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl) (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Parathion-ethyl (Parathion) (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Bromophos Ethyl (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Methidathion (mg/kg)	Subcontracted: SGS report SE 237445	<0.5	<0.5
Ethion (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Azinphos-methyl (Guthion) (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Total OP Pesticides (mg/kg)	Subcontracted: SGS report SE 237445	<1.7	<1.7
Arochlor 1016 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1221 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1232 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1242 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1248 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1254 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1260 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1262 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Arochlor 1268 (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
Total PCBs (Arochlors) (mg/kg)	Subcontracted: SGS report SE 237445	<1	<1
HYDROCARBON ANALYSIS RESULTS			
BTEX			
Benzene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Toluene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Ethylbenzene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
m/p-xylene (mg/kg)	Subcontracted: SGS report SE 237445	<0.2	<0.2
o-xylene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Total Xylenes (mg/kg)	Subcontracted: SGS report SE 237445	<0.3	<0.3
Total BTEX (mg/kg)	Subcontracted: SGS report SE 237445	<0.6	<0.6
Naphthalene (VOC) (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Total Recoverable Hydrocarbons			
Benzene (F0) (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
TRH C6-C9 (mg/kg)	Subcontracted: SGS report SE 237445	<20	<20
TRH C6-C10 (mg/kg)	Subcontracted: SGS report SE 237445	<25	<25
TRH C6-C10 minus BTEX (F1) (mg/kg)	Subcontracted: SGS report SE 237445	<25	<25
TRH C10-C14 (mg/kg)	Subcontracted: SGS report SE 237445	<20	<20
TRH C15-C28 (mg/kg)	Subcontracted: SGS report SE 237445	<45	55

checked: .....
Graham Lancaster
Laboratory Manager

RESULTS OF SOIL ANALYSIS

2 samples supplied by Regional Geotechnical Solutions Pty Ltd on 30/09/2022. Lab Job No. N3232.
Samples submitted by Louis Davidson. Your Job: RGS32576.1.
1/21 Cook Drive COFFS HARBOUR NSW 2450

	Method	Sample 1 N-T1 0.1-0.2m	Sample 2 S-T1 0.1-0.2m
	Job No.	*N3232/1*	*N3232/2*
TRH C29-C36 (mg/kg)	Subcontracted: SGS report SE 237445	<45	71
TRH C37-C40 (mg/kg)	Subcontracted: SGS report SE 237445	<100	<100
TRH >C10-C16 (mg/kg)	Subcontracted: SGS report SE 237445	<25	<25
TRH >C10-C16 - Naphthalene (F2) (mg/kg)	Subcontracted: SGS report SE 237445	<25	<25
TRH >C16-C34 (F3) (mg/kg)	Subcontracted: SGS report SE 237445	<90	96
TRH >C34-C40 (F4) (mg/kg)	Subcontracted: SGS report SE 237445	<120	<120
TRH C10-C36 Total (mg/kg)	Subcontracted: SGS report SE 237445	<110	130
TRH >C10-C40 Total (F bands) (mg/kg)	Subcontracted: SGS report SE 237445	<210	<210
Polynuclear Aromatic Hydrocarbons (PAH)			
Naphthalene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
2-methylnaphthalene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
1-methylnaphthalene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Acenaphthylene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.1
Acenaphthene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Fluorene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Phenanthrene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Anthracene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Fluoranthene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.2
Pyrene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.3
Benzo(a)anthracene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.3
Chrysene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.3
Benzo(b&j)fluoranthene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.4
Benzo(k)fluoranthene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.2
Benzo(a)pyrene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.3
Indeno(1,2,3-cd)pyrene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.2
Dibenzo(ah)anthracene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	<0.1
Benzo(ghi)perylene (mg/kg)	Subcontracted: SGS report SE 237445	<0.1	0.2
Carcinogenic PAHs, BaP TEQ <LOR=0 (TEQ (mg/kg))	Subcontracted: SGS report SE 237445	<0.2	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR (TEQ (mg/kg))	Subcontracted: SGS report SE 237445	<0.3	0.5
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2 (TEQ (mg/kg))	Subcontracted: SGS report SE 237445	<0.2	0.5
Total PAH (18) (mg/kg)	Subcontracted: SGS report SE 237445	<0.8	2.6
Total PAH (NEPM/WHO 16) (mg/kg)	Subcontracted: SGS report SE 237445	<0.8	2.6

Notes:

1. ppm = mg/Kg dried sample
2. All results as dry weight DW - samples were dried at 40oC for 24-48hrs prior to crushing and analysis.
3. Methods from Rayment and Lyons, Soil Chemical Methods - Australasia
4. Metals analysed by ICP-MS (Inductively Coupled Plasma - Mass Spectrometry)
5. In SGS Pesticide Analysis Screening the following pesticides are included:
   Organochlorine pesticide (OC's) screen: (HCB, alpha-BHC, gamma-BHC, Lindane, Heptachlor, Aldrin, beta-BHC, delta-BHC, Heptachlor epoxide, op-DDE, alpha-Endosulfan, alpha-Chlordane, trans-Nonachlor, pp-DDD, pp-DDT, Endosulfan sulphate, Endrin Aldehyde, Methoxychlor, Endrin Ketone, Isodrin, Mirex)
   Organophosphorus pesticide (OP's) screen: (Diazinon, Dimethoate, Dichlorvos, Fenitrothion, Malathion, Chlorpyrifos Ethyl, Parathion Ethyl, Bromophos Ethyl, Methidathion, Anzinphos-methyl (Guthion), Ethion)
6. Analysis conducted between sample arrival date and reporting date.
7. ** NATA accreditation does not cover the performance of this service.
8. .. Denotes not requested.
9. This report is not to be reproduced except in full.
10. All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer SCU.edu.au/eal/t&cs or on request).
11. Results relate only to the samples tested.
12. This report was issued on 13/10/2022.

NATA
WORLD RECOGNISED ACCREDITATION
Accreditation No. 14960
Accredited for compliance with ISO/IEC 17025 - Testing

checked: .....
Graham Lancaster
Laboratory Manager

Appendix D

Letter from Dr David Tully CEnvP SC

Contaminated Land Solutions

23 February 2023

Ref: CLS0177.L08

Regional Geotechnical Solutions Pty Ltd
2 Murray Circuit
Mayfield West
NSW 2304

For the attention of Louis Davidson

Dear Louis,

RE: Report Review Stage 1 & Stage 2 Site Contamination Assessment –Tamworth Health Service Redevelopment: On-grade Carparks, Dean Street, Tamworth

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).

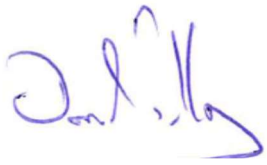
I confirm I have reviewed the Regional Geotechnical Solutions report entitled "Stage 1 & Stage 2 Site Contamination Assessment – *Tamworth Health Service Redevelopment: On-grade Carparks, Dean Street, Tamworth*" (Ref: RGS32576.1-AR Rev.1), dated 22 February 2023 and a copy of which I have retained.

I can confirm that on the basis of the information contained within the 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 Louis Davidson 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

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