Grafton Base Hospital Planning

Stage 1 & Preliminary Stage 2 Site Contamination Assessment

Proposed Redevelopment of Former Grafton Correction Centre

170 Hoof Street, Grafton

Report No. RGS33320.1-AD

19 September 2022

REGIONAL GEOTECHNICAL SOLUTIONS

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Manning-Great Lakes
Port Macquarie
Coffs Harbour

RGS33320.1-AD

19 September 2022

Grafton Base Hospital Planning
C/o: Health Infrastructure
Locked Bag 2030
ST LEONARDS NSW 1590

Attention: Sherrie Rutherford

Dear Sherrie

RE: Proposed Redevelopment of Former Grafton Correction Centre
170 Hoof Street, Grafton
Stage 1 & Preliminary Stage 2 Site Contamination Assessment

As requested, Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a combined Stage 1 and Preliminary Stage 2 site contamination assessment for the northeast portion of the former Grafton Correctional Centre that is located at 170 Hoof Street, Grafton.

The assessment indicates that the site is likely to be suitable for residential land use from a contamination perspective, however, a detailed Stage 2 site contamination assessment is required.

If you have any questions regarding this project, please contact the undersigned.

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

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1 INTRODUCTION & BACKGROUND

1.1 General

Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a combined Stage 1 and Preliminary Stage 2 site contamination assessment of a portion of the former Grafton Correctional Facility that is located at 170 Hoof Street, Grafton. The site is identified as Lot 1 Section 118 DP 758470, and the portion of the site that forms the assessment presented herein covers an area of approximately 9,800m^2. The location of the site is illustrated on Figure 1.

We understand that it is proposed to redevelop the site. The development will not involve the construction of new structures or additions to the existing structures. It is understood that new underground services will be installed which will involve excavations to depths of up to about 2m. The extents of the proposed development and hence the extents of the assessment presented herein are illustrated below.

The extent of the SCA presented herien is shown by a red outline

A site contamination assessment is required to characterise the nature and extent of potential soil contamination that may be present on the site, and to evaluate the site's suitability for the proposed development from a contamination perspective. The proposed land use for the site is not known to RGS, and it has therefore been assumed that for the purpose of the assessment presented herein that the site will be used for residential purposes.

1.2 Objectives

The objectives of the Stage 1 and Preliminary Stage 2 site contamination assessment were to:

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

1.3 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 selected available recent and historical aerial photography for the last 50 years;
- A search of NSW EPA records, or contaminated land notifications on the site;
- Review of government records of groundwater bores in the area;
- A SafeWork NSW site search for Schedule 11 Hazardous Chemicals on Premises;
- 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 site into Areas of Environmental Concern, in which the potential for contamination has been identified, and nominate Chemicals of Concern that might be associated with those activities;
- Undertake preliminary targeted sampling and analysis of the presence of contamination within areas nominated by Health Infrastructure where groundworks are proposed;
- Analyse samples for a suite of potential contaminants associated with the past activities;
- Evaluate the results against industry accepted criteria for future residential land use; and
- Preparation of a combined Stage 1 and preliminary Stage 2 site contamination assessment report.

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 Details	Description
Site location:	170 Hoof Street, Grafton
Approximate site area:	9,800m^2
Title Identification Details:	Lot 1 Section 118 DP 758470
Current Landuse:	Former Grafton Correctional Facility
Proposed Landuse:	Unknown – Assumed Residential land use
Adjoining Site Uses:	Southwest & Northwest – Former Grafton Correctional Facility Southeast – Queen Street & further is residential developments Northeast – Arthur Street, Grafton Hospital and Commercial Developments
Government Area:	Clarence Valley Council

2 SITE DESCRIPTION

2.1 Topography & Drainage

The site is situated within a region characterised by gently undulating alluvial deposits associated with the Clarence River. The site is flat.

Drainage is anticipated to be via infiltration into the upper soil profile or via surface flows into the site stormwater system.

The site is occupied by two storey brick structures and associated amenities structures. Beyond the buildings the site is vegetated with maintained grasses and well established garden beds that comprise mature trees and shrubs.

2.2 Geology

The NSW Government '*MinView*' Geological Survey of NSW indicates that the site is underlain by Alluvial Levee Deposits that comprise fluvially deposited sand, silt and clay, and by Alluvial Paleochannel Deposits that comprise gravel and clayey sand.

The investigation encountered a profile that comprises well compacted granular fill and alluvial silt deposits. A summary of the materials encountered within the investigation locations is presented in Table 2. The investigation locations are shown on Figure 2.

Table 2: Summary of Subsurface Materials

Material Name	Material Description	Depth to Base of Material Layer (m)		
		BH1	BH2	BH3
Fill	Clayey Gravelly SAND, fine to coarse grained, very dense, brown to orange-brown, fine to coarse ironstone and sandstone gravel, medium plasticity clay, trace of sandstone cobbles	--	≥ 0.65*	≥ 0.65*
Topsoil	Silty SAND, fine grained, brown, low plasticity silt	0.3		
Alluvial Silt	Sandy SILT, low plasticity, very stiff, brown to dark brown	≥ 2.0		

Note: ≥ Indicates that base of material layer was not encountered
* indicates that the borehole was terminated due to no sample recovery
-- Indicates that the material was not encountered at the test location

Groundwater was not encountered within the boreholes. Groundwater levels do fluctuate due to inclement weather, seasonal variations, tidal influences, or due to reasons that may not have been apparent at the time of the site investigation.

2.3 Hydrogeology

A groundwater bore search on the NSW Water Information website, http://waterinfo.nsw.gov.au/gw/ indicates that there is one licenced groundwater bore within 500m of the site as illustrated below.

Plate 1: *Approximate site boundary outlined in red. Nearest offsite licensed groundwater bore is located approximatley 440m to the south east. There is anouther to the north of the site.*

Groundwater bore GW302061 is located 440m to the southeast of the site and was drilled to a depth of 21m on 26 November 1998. The bore is licensed for irrigation purposes and its licence status is current. The driller's log indicates that the soil profile comprised the following:

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.60	0.60	black topsoil	Topsoil	
0.60	5.00	4.40	clay black	Clay	
5.00	12.00	7.00	clay brown silty	Clay	
12.00	15.00	3.00	clay black silty	Clay	
15.00	18.00	3.00	clay black pug	Clay	
18.00	21.00	3.00	washed gravels sand	Sand	

A standing water level of 5.0m and a water bearing zone of between 18.0 and 21.0m below ground surface were recorded.

2.4 Site History

2.4.1 Land Title Search

A land title search was undertaken by Advanced Legal Searches Pty Ltd. A summary of the search is presented in Table 3. The detailed results of the title search are presented in Appendix A.

Table 3: Summary of Land Title Search

Lot / DP	Year	Owner / Occupation / Site usage
Lot 1 Section 118 DP 758470	18 Oct 2021 – to date	Property NSW
	18 Mar 2008	The State of New South Wales
	Prior to 18 Mar 2008	Crown Land
	(18 Jul 1986)	*(Grafton Gaol vide Government Gazette 18 July 1986 Fol 3516)*
	(16 Aug 1890)	*(Reserve 12160 for Gaol Site vide Government Gazette 16 Aug 1890)*

2.4.2 Historical Aerial Photography

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

Table 4: Aerial Photograph Summary

Year	Site	Surrounding Land
1954	The site is vacant and appears to be used for agricultural purposes.	Historical section of gaol located immediate southwest. To the northwest appears to be used for agricultural purposes associated with the gaol To the north of the site is Arthur Street and further Grafton hospital and commercial/residential properties To the southeast is Queen Street and further are residential lots.
1970	No visible changes from the previous photograph.	Additional developments to the north beyond Arthur Street. No other visible changes from the previous photograph.
1978	No visible changes from the previous photograph.	No visible changes from the previous photograph.
1987	Existing structures within the site are under construction	Gaol complex to the immediate northwest. Redevelopment of historical portion of gaol to the south. No other visible changes from the previous photograph.
1991	Existing structures are complete	Redevelopment of historical portion of gaol to the south. Additional development completed to the southwest. Gaol complex extended to the west of Alumy Creek. No other visible changes from the previous photograph.

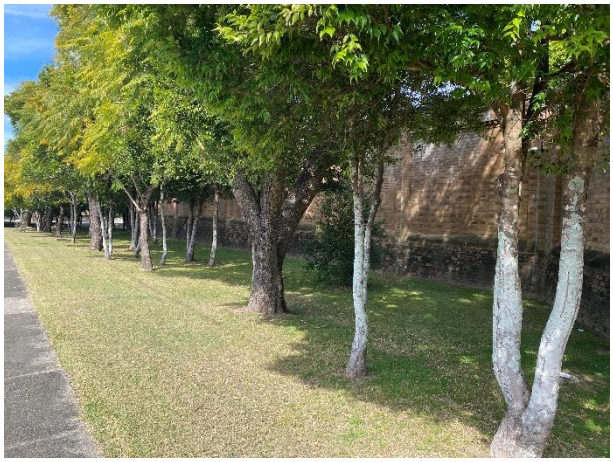
Year	Site	Surrounding Land
2004 (Google Earth)	No visible changes from the previous photograph.	Previous mentioned developments are complete. Minor changes to the gaol complex to the west of Alumy Creek. No other visible changes from the previous photograph.
2011 (Google Earth)	No visible changes from the previous photograph.	Minor changes to the gaol complex to the west of Alumy Creek. No other visible changes from the previous photograph.
2022 (Google Earth)	No visible changes from the previous photograph.	Minor changes to the gaol complex to the west of Alumy Creek. No other visible changes from the previous photograph.

2.4.3 Site Observations

Field work was undertaken on 11 August 2022. Observations from a contamination perspective made during the site visit are summarised below:

- The site is occupied by single and double storey brick structures, including former gaol cells, a perimeter wall and surrounding support/amenities structures;
- Air conditioning units and hot water heaters are located on the external walls of some of the structures;
- An above ground LPG tank and two underground fuel storage tanks are located beyond the northwest corner of the site;
- The site is vegetated with well maintained grasses and mature trees and shrubs. Lined stormwater drainage channels and stormwater pits are located at low points on the site; and
- No other visual or olfactory evidence of contamination was observed beyond what is outlined above.

A selection of images of the site is presented below.

	
Beyond the gaol perimeter wall in the northwest corner of the site where sample S1 was collected. The site is vegetated with maintained grasses and mature trees	*Beyond the gaol perimeter wall in the central north of the site where sample S2 was collected. The site is vegetated with maintained grasses and mature trees*
	
Looking north in the southwest corner of the site where BH3 was drilling and sample S4 was collected. This area of the site has been filled with well compacted granular fill	*Looking northeast at the inner courtyard. BH1 and sample S5 were undertaken within this area*

 *Looking south in the northeast corner of the site where BH2 and sample S6 were completed. This area of the site is underlain by well compacted granular fill which is likely to be attributed to backfilled service trenches*	 *A gas hot water system attached to the wall of one of the cells in the southwest corner of the site*

2.4.4 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).

2.4.5 Hazardous Chemicals on Premises

A SafeWork NSW site search for Schedule 11 Hazardous Chemicals on Premises was undertaken. The search identified that SafeWork NSW holds two documents on record number 35/031681 relating to the storage of Hazardous Chemicals at the site. A summary of the documents is presented in Table 5.

Table 5: Summary of Hazardous Chemicals Documents

Date	Document Type	Relevance to Site
24 Jan 1997	Application for licence to keep Class 2.1 and Class 3 dangerous goods	LPG tanks and underground diesel and petrol tanks are located beyond the portion of the site covered by the assessment presented herein
25 March 1996	Application for Licence to Keep Dangerous goods	Refers to the same tanks identified above

2.4.6 Hazardous Materials Survey & Register – Ballpark Environmental

A non-destructive hazardous materials survey of accessible external and internal accessible areas of the site was undertaken by Ballpark Environmental in August 2022 (Report BPE2095-R01). A summary of the findings is reproduced below:

Table 1: Summary of Hazardous Materials Survey Findings

Hazardous Material	Identified on Site
Friable Asbestos Containing Material (ACM)	No
Non-Friable (Bonded) Asbestos/ACM	No
Unbonded / Friable Synthetic Mineral Fibre (SMF)	No
Bonded SMF	**YES**
Lead-based paint	No
Capacitors with Polychlorinated Biphenyls (PCBs)	No

Bonded Synthetic Mineral Fibres (SMF) insulation batts were observed in the roof cavity and ceiling linings of buildings within the site. It was also noted that bonded SMF insulation is likely to be present within the hot water systems.

2.4.7 Hazardous Materials Survey & Register – Noel Arnold & Associates

RGS has been provided with a draft '*Hazardous Materials Survey Report*' that was prepared by Noel Arnold & Associates in March 2010 (Ref: SD0100:79081). The assessment was undertaken for the entire gaol facility. A summary of the findings is presented below, with the highlighted sections being within the site under the current assessment.

Reference No.	Facility Description	Asbestos	SMF	PCBs	Lead Paint	Lead Dust	ODS	USTs/ASTs
001	Administration Building	✓	✓	-	✓	-	-	-
002	Visiting Facilities	✓	✓	-	✓	-	✓	-
003	Reception/Clinic	-	✓	-	-	-	-	-
004	B Wing Cell Block, Edu, Amenities	-	✓	-	-	-	✓	-
005	A Wing	-	-	-	✓	✓	-	-
006	Industries	-	-	-	-	-	-	-
008	Perimeter Wall (Old Gate)	-	-	-	-	-	-	-
009	South & North Towers	-	✓	-	-	-	-	-
012	Sterile Zone	-	-	-	-	-	-	-
013	Gatehouse Area A	✓	✓	✓	✓	-	-	-
014	Gatehouse Area B	-	✓	-	-	-	✓	-
015	Administration Building (Cat C)	-	✓	-	-	-	-	-
016	Prisoner Sport Facilities & Activities Building	-	✓	-	-	-	-	-
017	C Wing	-	✓	-	-	-	-	-
018	D Wing	-	✓	-	-	-	-	-
019	Gazebo	-	-	-	-	-	-	-
020	Covered Walkway	-	-	-	-	-	-	-
024	Sterile Zone	-	-	-	-	-	-	-

Reference No.	Facility Description	Asbestos	SMF	PCBs	Lead Paint	Lead Dust	ODS	USTs/ASTs
025	Perimeter Wall	-	-	-	-	-	-	-
026	Garage & Laundry	✓	✓	-	-	-	-	-
027	Industries	✓	✓	-	-	-	-	-
028	Industries	✓	-	-	-	-	-	-
029	Industries	-	✓	-	-	-	-	-
030	Female Accommodation Unit	-	-	-	-	-	-	-
031	Officers Amenities	-	-	-	-	-	-	-
032	Farm Buildings Industries	-	-	-	-	-	-	-
033	Macem Perimeter Fence	-	-	-	-	-	-	-
038	Main Store	-	-	-	-	-	-	-
039	Maintenance Store/Workshop	-	-	-	-	-	-	-
040	Inmate Activities	-	-	-	-	-	-	-
041	Clinic	-	✓	-	-	-	✓	-
042	Industries/Kitchen	-	✓	-	-	-	-	-
043	Toilet Block/Weights Area	-	-	-	-	-	-	-
600	Site Services	-	-	-	-	-	-	-
700	Inner Grounds	-	-	-	-	-	-	-
800	Outer Grounds	-	-	-	-	-	-	✓

Bonded Synthetic Mineral Fibres (SMF) were identified within ceiling cavities, hot water systems and within bathroom facilities. Ozone Depleting Substances (ODS) were identified within air conditioning units.

2.4.8 Site History Summary

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

- Prior to the 1980's when the existing structures were constructed, the site was cleared of vegetation and likely used for agricultural purposes;
- In the 1980's the existing structures were constructed as an extension to the original gaol facility that forms the southwest boundary of the site;

- Above ground LPG tanks and underground fuel tanks are located beyond but close to the northwest boundary of the site;
- Bonded Synthetic Mineral Fibres (SMF) were identified within structures and hot water systems within the site. Ozone Depleting Substances (ODS) were identified within air conditioning units in 2010; and
- The site appears to have remained largely unchanged from its current state since the 1980's.

3 SITE CONTAMINATION ASSESSMENT

3.1 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.

3.1.1 Potential Sources of Contamination

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

Table 6: Potential AECs & COCs

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC1: Former agricultural land use (entire site)	Potential intensive use of or spillage of stored chemicals and from vehicles and machinery including agrochemicals, fuels/oils	Heavy Metals, TRH, BTEX, PAH, OC/OPP	Low to moderate
AEC2: Soils and groundwater around the above ground LPG tanks and underground fuel tanks that are located beyond the northwest site boundary	Leaking above ground LPG tank/lines and/or underground fuel tanks/lines	Heavy metals, TRH	Low to moderate
AEC3: Isolated areas of soil contamination associated with construction and maintenance of the existing structures/infrastructure (entire site)	Potential spillage of fuels/oils and chemicals from containers including agro-chemicals, fuels/oils, pesticides	Heavy Metals, TRH, BTEX, PAH, OC/OPP and asbestos	Low

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

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

3.1.2 Potential Exposure Pathways and Receptors

Based on the site observations and knowledge obtained about site activities as outlined above, potential exposure pathways and receptors identified for the assessment are summarised in Table 7.

Table 7: Potential Exposure Pathways & Receptors

Chemicals of Concern	Key Pathways	Key Receptors
Asbestos, heavy metals, PAHs	Generation of dust, notably during earthworks or from landscaped areas which is inhaled	Onsite - Construction and site workers, future site users Offsite – Occupants and users of adjacent sites
Heavy metals, TRH, BTEX, PAH, OC/OPP, PCBs	Skin contact / ingestion, plant uptake	Onsite - Construction and site workers, future site users, vegetation in landscaped areas
Heavy Metals, TRH, BTEX, PAH, OC/OPP	Surface runoff and leaching of soils	Offsite - Surface water ecosystems and users of surface water and groundwater
Heavy Metals - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *BTEX - Benzene, Toluene, Ethylbenzene and Xylene* *TRH - Total Recoverable Hydrocarbons* *PAH – Polycyclic Aromatic Hydrocarbons* *PCB – Polychlorinated Biphenyls* *OC/OPP – Organochlorine and Organophophorus Pesticides*		

4 PRELIMINARY STAGE 2 ASSESSMENT

4.1 Field & Laboratory Investigations

4.1.1 Sampling Plan

The site has an area of about 9,800m^2. The NSW EPA Sampling Design Part 1 – Application (2022) recommend a minimum of 21 sampling locations to characterise a site of between 9,000m^2 and 10,000m^2.

Due to the preliminary nature of the Stage 2 assessments, soils samples were collected at 6 locations that were nominated by Health Infrastructure as being areas of concern due to the potential for future ground works in those areas. The sample locations are illustrated on Figure 2.

4.1.2 Field Work

Field work for the assessment was undertaken in August 2022 and included:

- Site walkover to assess visible surface conditions and identify evidence of contamination, or past activities that may cause contamination (if any); and
- Collection of surface soil samples by a Geotechnical Engineer.

The locations of the sampling points are shown on Figure 2. They were obtained on site and located by measurement relative to existing site features.

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

4.2 Laboratory Analysis

Samples were transported under chain-of-custody conditions to 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 of asbestos.

The results are presented in Appendix B.

4.3 Data Quality Objectives

The Data Quality Objectives (DQOs) are presented in Table 8.

Table 8: Data Quality Objectives

DQO	Details of Process
State the Problem	A Stage 1 and Preliminary Stage 2 site contamination assessment is required to assess the suitability of the site for residential land use 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 residential development from a contamination viewpoint?
Identify Inputs to the Decision	The primary inputs are: • Site history study; • Site walkover assessment; • Chemical analysis and asbestos screening of selected soil samples; and • Results summary.
Define the Boundary of the Assessment	• The spatial boundaries are limited to the property boundaries of the subject site as shown on Figure 1; and • The investigation and screening levels for a Residential A land use scenario.
Develop a Decision Rule	The decision rules for the investigation are: • If concentrations of contaminants in soil exceed the adopted investigation and screening levels for a Residential A land use scenario, then further assessment may be required.

DQO	Details of Process
	Decision criteria for QA/QC measures are defined in Section 4.5. 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 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. A NATA registered laboratory was used following NATA endorsed methods including appropriate method blanks, laboratory control samples, laboratory spikes and duplicates the results of which are considered to be satisfactory. • **Representativeness –** The samples were received by the laboratories in good condition. The data obtained is considered to be representative of the soils present on site; • **Completeness –** Experienced field staff were utilised to undertake the sampling and keep appropriate documentation. Samples were in proper custody between the field and reaching the laboratory. The laboratories performed the tests requested. The data obtained from the field investigations is considered to be relevant and usable; and • **Comparability –** Sample holding times were met and samples were properly and adequately preserved. Field sampling and handling procedures were followed. The data collected is considered to be comparable.
Specify Acceptable Limits on Decision Errors	• Acceptable limits for QA/QC measures are defined in Section 4.5; • Acceptable investigation and screening levels are those for a Residential A 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 4.1.1.

4.4 Guidelines & Assessment Criteria

The assessment was undertaken as outlined in NSW EPA *Guidelines for Consultants Reporting on Contaminated Land (2020)*.

To evaluate results, and for guidance on assessment requirements, the assessment will adopt the guidelines provided in the *National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013)*. The ASC NEPM document provides a range of guidelines for assessment of contaminants for various land use scenarios. The proposed land use for the site is unknown to RGS and for the purpose of the assessment it has therefore been assumed that the site will be used for residential purposes. As such, comparison with the ASC NEPM guideline Health Investigation Levels (HIL) for Residential A land use is considered appropriate for the site. In accordance with the NEPM guideline the following criteria will be adopted for this assessment:

- Health Investigation Levels (HILs) for Residential land use (HIL-A) will be 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 site will be 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 residential land use will be used for evaluation of the potential ecological / environmental impact of heavy metals and PAHs; and
- Ecological Screening Levels (ESLs) for coarse textured (sand) soils or fine textured (silt and clay) soils on a residential land use site will be 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.

4.5 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 and bags.

Samples were placed on ice on-site and maintained on ice during transport to the testing laboratories. One duplicate soil sample was obtained and was identified as D1. The primary sample was identified as S4 (0.0 – 0.1m).

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

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

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

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

4.6 Results

4.6.1 Subsurface Conditions

The soil types recorded in surface samples are summarised below in Table 9.

Table 9: Summary of Subsurface Conditions (Soil Samples)

Sample ID	Description
S4 0-0.1m S6 0-0.1m	Fill: Clayey Gravelly SAND, fine to coarse grained, ironstone and sandstone gravel, trace of cobbles
S1 0-0.1m S2 0-0.1m S3 0-0.1m S5 0-0.1m	Topsoil: Silty SAND, fine grained, brown

4.6.2 Laboratory Results

An appraisal of the laboratory test results presented in Appendix B is provided below with reference to the adopted soil investigation and screening levels discussed in Section 4.4.

- Concentrations of Arsenic, Cadmium, total Chromium, Copper, Lead, Nickel, Zinc and Mercury were either below the laboratory limit of reporting or below the adopted health and ecological investigation criteria for a Residential A site in each of the samples analysed;
- Concentrations of OC/OP pesticides, TRH, PAH, BTEX and PCB were either below the laboratory limit of reporting or below the adopted health or ecological investigation criteria in each of the samples analysed; and
- Asbestos was not detected in any of the soil samples analysed.

4.7 Discussion

A Stage 1 and preliminary Stage 2 site contamination assessment was required to assess the nature and extent of soil contamination with regards to the site's suitability for the proposed redevelopment.

The site history study indicates that the site has been used as a correctional facility since the 1980's, and prior to this the site was used for agricultural purposes. The site layout appears to have remained unchanged since the mid to late 1980's.

Identified AEC's included soils impacted by the construction and maintenance of the existing structures and infrastructure, by the sites former agricultural land use, and soils and groundwater impacted by the above ground LPG and underground fuel storage tanks that are located beyond the northwest site boundary.

The results of the laboratory analysis of soil samples collected from locations where development is proposed (as nominated by Health Infrastructure) revealed concentrations of chemicals of concern either below the level of laboratory reporting, or below the HIL or EIL for a Residential A site.

4.8 Site Assessment Conclusions & Recommendations

The preliminary sampling undertaken during the assessment indicates that the site soils are likely to be suitable for residential land use with regard to the presence of soil contamination, however, it is recommended that a detailed Stage 2 site contamination assessment be undertaken at the site.

A detailed Stage 2 assessment must include the following:

- Surface sampling across the site at 21 locations for the Chemicals of Concern as identified within Table 7;
- A review of previous soil and groundwater contamination test results if sampling and groundwater wells have been undertaken/installed around the LPG and underground fuel storage tanks that are located near the northwest corner of the site; and
- Installation of groundwater wells and soil sampling within the northwest corner of the site if no soil or groundwater contamination results are available, or if a review of the results indicates contaminants above the levels for Residential A land use. The installation of groundwater wells and soil sampling must be undertaken in accordance with regulatory/legislative requirements.

5 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

Simon Keen

Associate Geotechnical Engineer

Reviewed by

Adam Holzhauser

Principal Geotechnical Engineer

Figures

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Grafton Base Hospital Planning	Job No.	RGS33320.1
	Project:	Proposed Redevelopment of Former Grafton Correction Centre 170 Hoof Street, Grafton	Drawn By:	SK
			Scale:	NTS
			Date:	19-Sep-22
	Title:	Site Location	Drawing No.	**Figure 1**

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Grafton Base Hospital Planning	Job No.	RGS33320.1
	Project:	Proposed Redevelopment of Former Grafton Correction Centre 170 Hoof Street, Grafton	Drawn By:	SK
			Scale:	NTS
			Date:	19-Sep-22
	Title:	Borehole & Sample Location Plan	Drawing No.	**Figure 2**

REGIONAL GEOTECHNICAL SOLUTIONS

Client:	Grafton Base Hospital Planning	Job No.	RGS33320.1
Project:	Proposed Redevelopment of Former Grafton Correction Centre 170 Hoof Street, Grafton	Drawn By:	SK
		Scale:	NTS
		Date:	19-Sep-22
Title:	Site Plan - Areas of Environmental Concern	Drawing No.	**Figure 3**

Appendix A

Results of Field Investigations

ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842)
ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

Mobile: 0412 169 809
Email: search@alsearchers.com.au

10th August, 2022

REGIONAL GEOTECHNICAL SOLUTIONS PTY LTD
14/25-27 Hurley Drive,
COFFS HARBOUR NSW 2450

Attention: Simon Keen,

RE: **Grafton Correctional Centre,**
170 Hoof Street,
Grafton
RGS33320.1

Current Search

Folio Identifier 1/118/758470 (title attached)
Crown Plan 63-1359 (plan attached)
Dated 09th August, 2022
Registered Proprietor:
PROPERTY NSW

Title Tree
Lot 1 Section 118 DP 758470

Folio Identifier 1/118/758470

Crown Land

****

Index

R – Request

****

Summary of proprietor(s)
Lot 1 Section 118 DP 758470

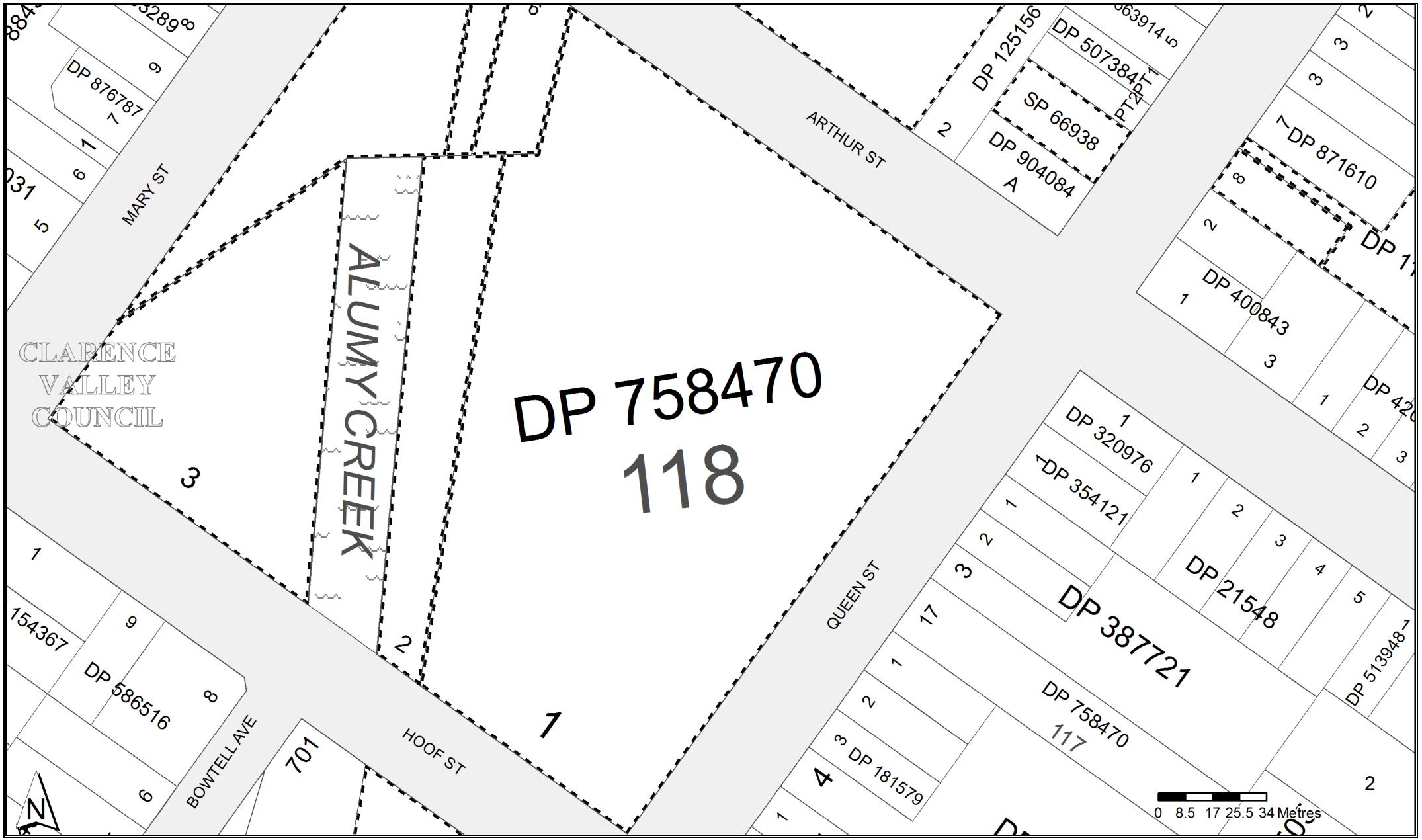
Year	Proprietor(s)	
	(Lot 1 Section 118 DP 758470)	
18 Oct 2021 – todate	Property NSW	R
18 Mar 2008	The State of New South Wales	
	(Allotment 1 Section 118 Town Grafton – Area 6 Acres 1 Rood 18 Perches)	
Prior – 18 Mar 2008	Crown Land	
(18 Jul 1986)	*(Grafton Gaol vide Government Gazette 18 July 1986 Fol 3516)*	
(16 Aug 1890)	*(Reserve 12160 for Gaol Site vide Government Gazette 16 Aug 1890)*	

****

Cadastral Records Enquiry Report : Lot 1 Section 118 DP 758470

Ref : NOUSER

Locality : GRAFTON
Parish : GREAT MARLOW
LGA : CLARENCE VALLEY
County : CLARENCE



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
DP758470			
Lot(s): 1, 2, 3, 4, 5, 6 Section : 118			
DP1276261	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION
Lot(s): 11 Section : 104			
NSW GAZ. 21-10-2011 Folio : 6158			
ACQUIRED FOR THE PURPOSES OF THE HEALTH ADMINISTRATION ACT 1982 - LOT 11 SECTION 104 DP758470. ERRATUM GAZ. 28-10-2011 FOL. 6368			
DP1024231			
Lot(s): 22			
DP614566	HISTORICAL	SURVEY	SUBDIVISION
DP1152615	REGISTERED	SURVEY	EASEMENT
DP1170746			
Lot(s): 8, 9			
DP871610	HISTORICAL	SURVEY	SUBDIVISION
SP66938			
DP1034474	HISTORICAL	SURVEY	REDEFINITION

Plan	Surv/Comp	Purpose
DP21548	SURVEY	UNRESEARCHED
DP92918	COMPILATION	DEPARTMENTAL
DP125156	COMPILATION	DEPARTMENTAL
DP154367	COMPILATION	UNRESEARCHED
DP181579	SURVEY	UNRESEARCHED
DP233289	SURVEY	SUBDIVISION
DP248843	SURVEY	SUBDIVISION
DP320378	SURVEY	UNRESEARCHED
DP320976	COMPILATION	UNRESEARCHED
DP340517	COMPILATION	UNRESEARCHED
DP342538	SURVEY	UNRESEARCHED
DP354121	COMPILATION	UNRESEARCHED
DP387564	SURVEY	UNRESEARCHED
DP387721	SURVEY	UNRESEARCHED
DP400843	SURVEY	UNRESEARCHED
DP420548	SURVEY	UNRESEARCHED
DP448781	SURVEY	UNRESEARCHED
DP503214	SURVEY	SUBDIVISION
DP507384	SURVEY	SUBDIVISION
DP513948	SURVEY	SUBDIVISION
DP586516	SURVEY	SUBDIVISION
DP663914	COMPILATION	DEPARTMENTAL
DP710505	SURVEY	SUBDIVISION
DP758470	COMPILATION	CROWN ADMIN NO.
DP784331	COMPILATION	DEPARTMENTAL
DP871610	SURVEY	SUBDIVISION
DP872509	COMPILATION	SUBDIVISION
DP874031	SURVEY	SUBDIVISION
DP876787	SURVEY	SUBDIVISION
DP884393	COMPILATION	CONSOLIDATION
DP904084	COMPILATION	UNRESEARCHED
DP1024231	SURVEY	SUBDIVISION
DP1170746	SURVEY	SUBDIVISION
SP38858	COMPILATION	STRATA PLAN
SP66938	COMPILATION	STRATA PLAN

Grafton

PLAN OF PROPOSED SITE FOR GAOL

County of Clarence Parish of Gt. Marlow

To be reserved as a site for Gaol under the 101st clause of the Crown Lands Act of 1884

Being allotment 1, section 118

Town of Grafton

That part marked Reserve for Cattle Market

Proposed to be resumed under the 105th section of the C.L. Act of 1884 Vide Papers

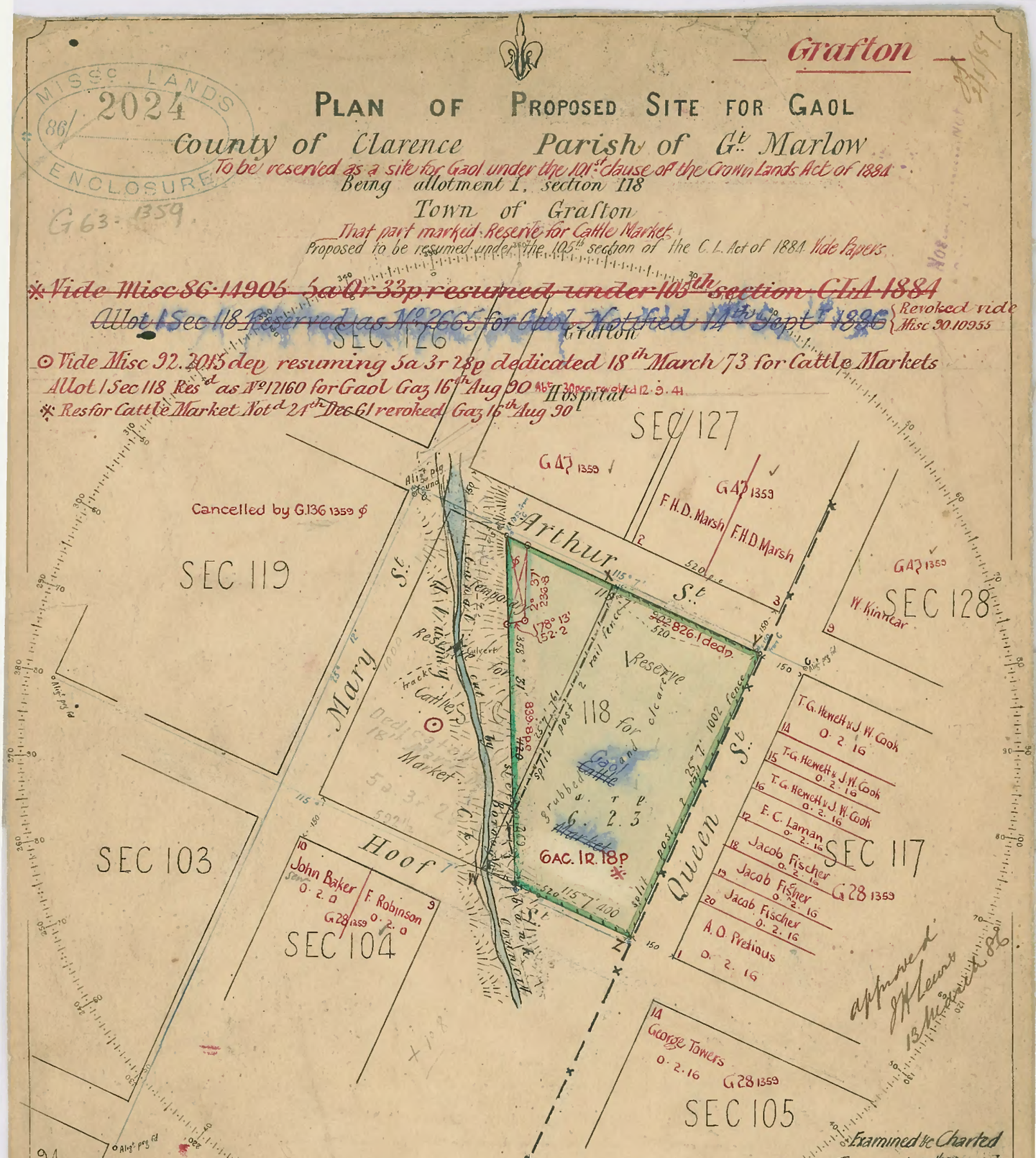
~~*Vide Misc 86-14906 5a 0r 33p resumed under 105th section CLA 1884~~

~~Allot 1 Sec 118 Reserved as No 2665 for Gaol Notified 14th Sept 1886~~ Revoked vide Misc 90.10955

⊙ Vide Misc 92.2015 dep resuming 5a 3r 28p dedicated 18th March 73 for Cattle Markets

Allot 1 Sec 118 Res^d as No 12160 for Gaol Gaz 16th Aug 90 1a 3r 30p revoked 12.9.41

* Res for Cattle Market Not^d 21st Dec 61 revoked Gaz 16th Aug 90



Azimuth taken from B-C

Reference to Corners

Corner	Bearing	From	Links	No on Tree
Numbered stakes at corners				

Reference to Traverse

Line	Bearing	Distance

I hereby certify that I in person made and on 12th Nov. 85 completed the survey represented on this plan, on which are written the bearings and the lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors and the practice of the Surveyor Generals Department.

H. Valentine Haynes

Licensed Surveyor

Value of Improvements Clearing and fencing £46.10.0

Situated in the Town of Grafton

G63 1359

63-1359

Scale 4 Chains to an Inch. Transmitted to the Surveyor General with my letter of the 2nd Jan^y 86. 2

Lodger Details

Lodger Code	506303J
Name	DEPARTMENT OF PLANNING INDUSTRY AND ENVIRONMENT
Address	4 PARRAMATTA SQUARE 12 DARCY ST PARRAMATTA 2150
Lodger Box	1W
Email	JUSTINE.BENFIELD@ENVIRONMENT.NSW.GOV.AU
Reference	LEX 14718 (GRAF

Land Registry Document Identification

AR506053

STAMP DUTY:

Application to Record a New Registered Proprietor (Without Stamp Duty)

Jurisdiction NEW SOUTH WALES

Privacy Collection Statement

The information in this form is collected under statutory authority and used for the purpose of maintaining publicly searchable registers and indexes.

Land Title Reference	Part Land Affected?	Land Description
2/118/758470	N	
3/118/758470	N	
4/118/758470	N	
1/118/758470	N	

Present Registered Proprietor

THE STATE OF NEW SOUTH WALES

State/Territory government or body

New Registered Proprietor

PROPERTY NSW

State/Territory government or body

Tenancy (inc. share) : Sole Proprietor

Applicant

PROPERTY NSW

State/Territory government or body

Legislative Provision/Instrument of Appointment

Details The titles vested to Property NSW on commencement of the Property NSW Amendment (Transfer of Property) Order 2021, ordered b Governor Beazley dated 1 September 2021 (published 3 September 2021) and pursuant to section 19 of the Property NSW Act 2006 (NSW).

Application to Record a New Registered Proprietor pursuant to

SECTION 46C REAL PROPERTY ACT 1900: In regard to the above land, the applicant requests the Registrar General to record the new registered proprietor on the folio of the Register, the land having vested in the new registered proprietor pursuant to the legislative provision.

The subscriber requests the Registrar-General to make any necessary recording in the Register to give effect to this instrument, in respect of the land or interest described above.

Execution

The Certifier has taken reasonable steps to verify the identity of the applicant or his, her or its administrator or attorney.

The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.

The Certifier has retained the evidence supporting this Registry Instrument or Document.

The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

Executed on behalf of	PROPERTY NSW
Signer Name	SEAN RUSSELL
Signer Organisation	DEPARTMENT OF PLANNING INDUSTRY AND ENVIRONMENT
Signer Role	PRACTITIONER CERTIFIER
Execution Date	11/10/2021

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
9/8/2022 4:50PM

FOLIO: 1/118/758470

First Title(s): THIS FOLIO
Prior Title(s): CROWN LAND

Recorded	Number	Type of Instrument	C.T. Issue
26/8/2004	AA908884	DEPARTMENTAL DEALING	LOT RECORDED FOLIO NOT CREATED
18/3/2008	CA128091	CONVERSION ACTION	FOLIO CREATED CT NOT ISSUED
18/10/2021	AR506053	APPLICATION TO RECORD A NEW REGISTERED PROPRIETOR	EDITION 1
4/2/2022	AR814789	REQUEST	EDITION 2

*** END OF SEARCH ***

advlegs PRINTED ON 9/8/2022

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/118/758470

SEARCH DATE	TIME	EDITION NO	DATE
9/8/2022	4:50 PM	2	4/2/2022

LAND

LOT 1 OF SECTION 118 IN DEPOSITED PLAN 758470
AT GRAFTON
LOCAL GOVERNMENT AREA CLARENCE VALLEY
PARISH OF GREAT MARLOW COUNTY OF CLARENCE
(FORMERLY KNOWN AS ALLOTMENT 1 OF SECTION 118)
TITLE DIAGRAM CROWN PLAN 63.1359

FIRST SCHEDULE

PROPERTY NSW (RP AR506053)

SECOND SCHEDULE (1 NOTIFICATION)

1 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.

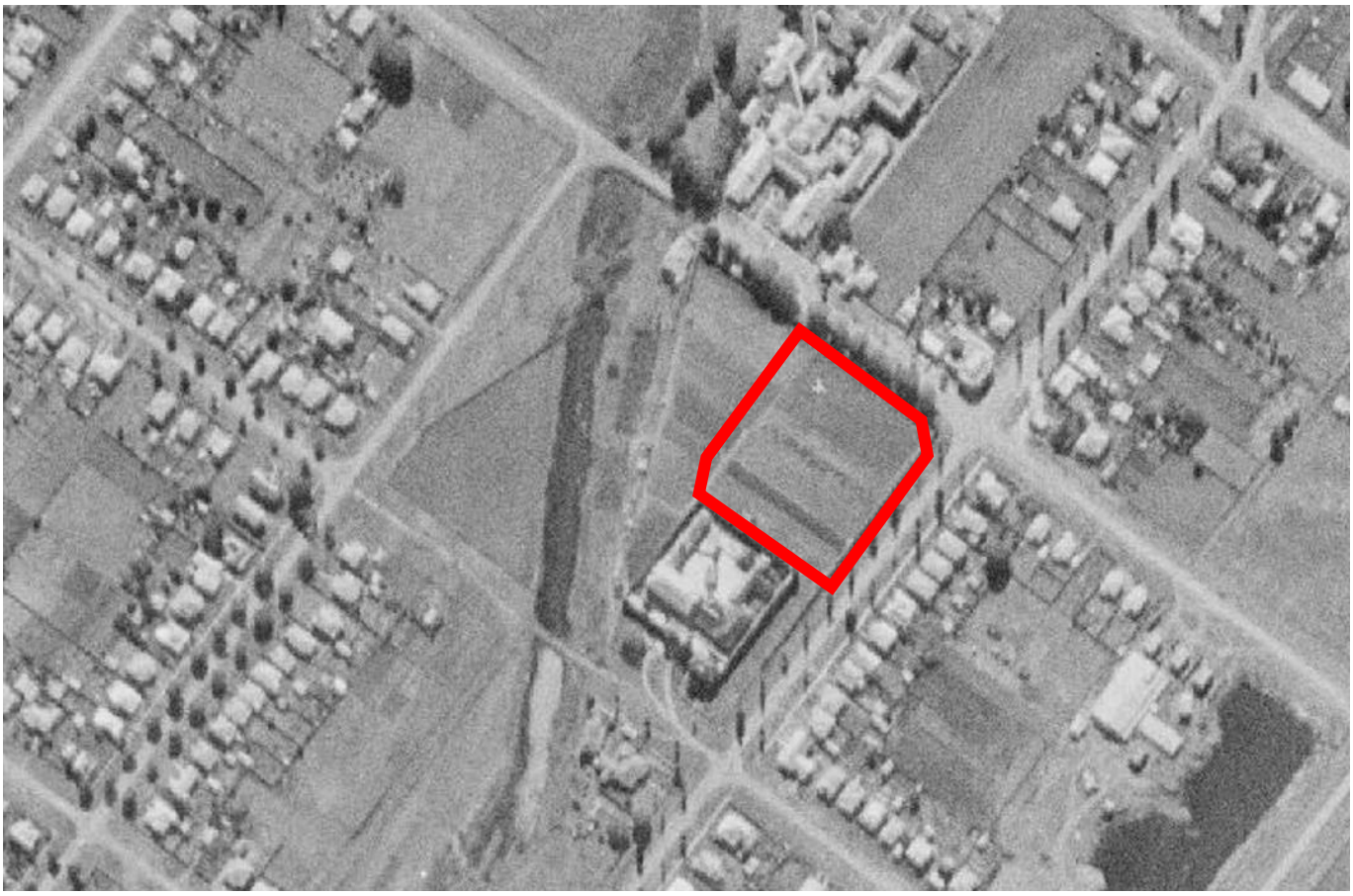
NOTATIONS

UNREGISTERED DEALINGS: PP DP1276261.

*** END OF SEARCH ***

advlegs PRINTED ON 9/8/2022

1954



1970

1978

1987

1991

2004

RGS33320.1 – Historical Aerial Photographs

2011

2021

Simon Keen

From: Licensing <licensing@safework.nsw.gov.au>
Sent: Friday, 5 August 2022 10:45 AM
To: Simon Keen
Subject: SafeWork NSW: 00729728 –Site Search application – Result found [ref:_ 00D281hl6J._5004a8z5nQ:ref]
Attachments: Site Search - 170 Hoof Street, GRAFTON, NSW,(2).pdf; Site Search - 170 Hoof Street, GRAFTON, NSW, (2)(2).pdf

Security Classification: Sensitive Personal
Please do not amend the subject line of this email

Dear SIMON

Re: Site Search for Schedule 11 Hazardous Chemicals on premises Application – Result found

I refer to your application for a Site Search for Schedule 11 Hazardous Chemicals on premises for the following site: 170 Hoof St, Grafton NSW 2460.

Please find attached copies of the documents that SafeWork NSW holds on record number 35/031681 relating to the storage of Hazardous Chemicals at the above-mentioned premises.

If you have any further information or if you have any questions, please use one of the following options, quoting the SafeWork NSW enquiry reference number: 00729728

- Email: licensing@safework.nsw.gov.au
- Phone: 13 10 50

Kind regards

Gabriela Draper
Licensing Representative
SafeWork NSW | Better Regulation Division
Department of Customer Service
p- 13 10 50
e- licensing@safework.nsw.gov.au | www.customerservice.nsw.gov.au
Level 3, 32 Mann Street, Gosford, NSW 2250

We are always looking for ways that we can improve our services. You may be contacted by email in the next few weeks to complete a short survey and provide us with your feedback on what we did

WorkCover New South Wales, 400 Kent Street, Sydney 2000 , Tel: (02) 9370 5000 ALL MAIL TO LOCKED BAG 10, CLARENCE STREET, SYDNEY 2000

DX 13067, MARKET ST. SYDNEY

WORKCOVER NEW SOUTH WALES

Reference 35/031681

SCIENTIFIC SERVICES BRANCH
Dangerous Goods Licensing
ph 9370 5192 fax 9370 6105
Friday, 24 January 1997

~~Attention: Clement M Muscat~~ O H - S. officer
Grafton Correctional Centre
PO Box 656
GRAFTON NSW 2460

Locked Bag 10
P.O. Clarence St
Sydney.

~~Dear Mr Muscat~~

RE: APPLICATION FOR LICENCE TO KEEP DANGEROUS GOODS
SITE: 170 HOOF STREET, GRAFTON
NO: 35/031681

Please note that the abovementioned site remains unlicensed, as we have still not received the following:

1. Plans of the site, showing the locations of the Class 2.1 and Class 3 dangerous goods, **which have been stamped by consultants who are accredited for Class 2.1 and Class 3 dangerous goods.** A list of accredited consultants is enclosed for your reference. You may find it easiest to contact consultants who work for the companies which supply those dangerous goods (look on the list);

2. An A4 sketch of the site, **drawn according to the instructions in our application form.** Please follow the enclosed instructions to draw this sketch.

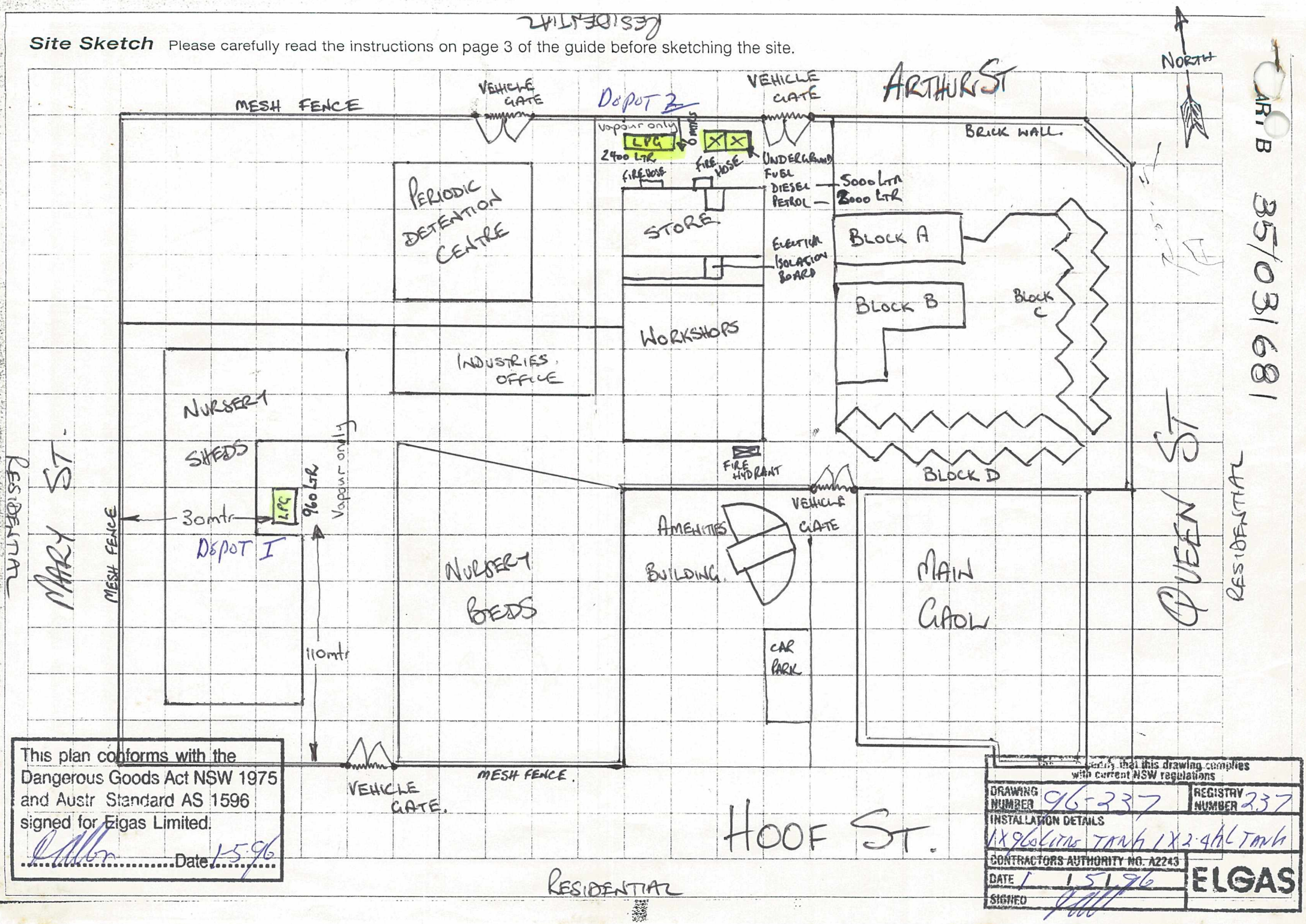
Then please forward the stamped plans and the A4 site sketch to:

Dangerous Goods Licensing
WorkCover NSW
Locked Bag 10
PO CLARENCE ST SYDNEY 2000

Yours sincerely

Angela McLaren
Licensing Clerk
Dangerous Goods

Site Sketch Please carefully read the instructions on page 3 of the guide before sketching the site.



This plan conforms with the Dangerous Goods Act NSW 1975 and Austr Standard AS 1596 signed for Elgas Limited.

.....Date 1.5.96

I certify that this drawing complies with current NSW regulations

DRAWING NUMBER 96-237	REGISTRY NUMBER 237
INSTALLATION DETAILS 1 X 960 LITRE TANK / 1 X 2.4KL TANK	
CONTRACTORS AUTHORITY NO. A2243	
DATE 1/5/96	ELGAS
SIGNED	

AR, B 35/031681

R15

WorkCover New South Wales

Details of Licence for Keeping

Dangerous Goods on 6 December 1996

Licence Number 35/031681 **Expiry Date** 01/01/50

Licensee Details

Licensee GRAFTON CORRECTIONAL CENTRE

Trading name

Postal Address BOX 656 PO, GRAFTON 2460

Licensee Contact Clement M Muscat Ph. 066 42 2133 Fax. 066 42 1675

Site Details

Premises Licensed to Keep Dangerous Goods
170 HOOF ST
GRAFTON 2460

Nature of Site PRIVATE DWELLING **Supplier** VARIOUS

Emergency Contact Mike Cosso ph. 066 42 6280

Site staffing 24 hrs 7 days

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
		Class	

Application for Licence to Keep Dangerous Goods

WorkCover NEW SOUTH WALES

Application for ☑ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

PART A – Applicant and site information

1 Name of applicant: GRAFTON CORRECTIONAL CENTRE — ACN:

2 Postal address of applicant: P.O. BOX 656 — Suburb/Town: GRAFTON — Postcode: 2460

3 Trading name or site occupier's name: GRAFTON CORRECTIONAL CENTRE.

4 Contact for licence inquiries
Phone: 066 422133 — Fax: 066 421675 — Name: CLEMENT [illegible] MUSCAT

RECEIVED
4 APR 1996
SCIENTIFIC SERVICES BRANCH

5 Previous licence number (if known): 35/03/681

6 Previous occupier (if known):

7 Site to be licensed
No: 170 — Street: HOOF ST
Suburb / Town: GRAFTON — Postcode: 2460

8 Main business of site: CORRECTIONAL CENTRE

9 Site staffing: Hours per day: 24 — Days per week: 7

10 Emergency contact
Phone: 426280. — Name: MIKE 65520.

11 Major supplier of dangerous goods: MOBIL, ELGAS

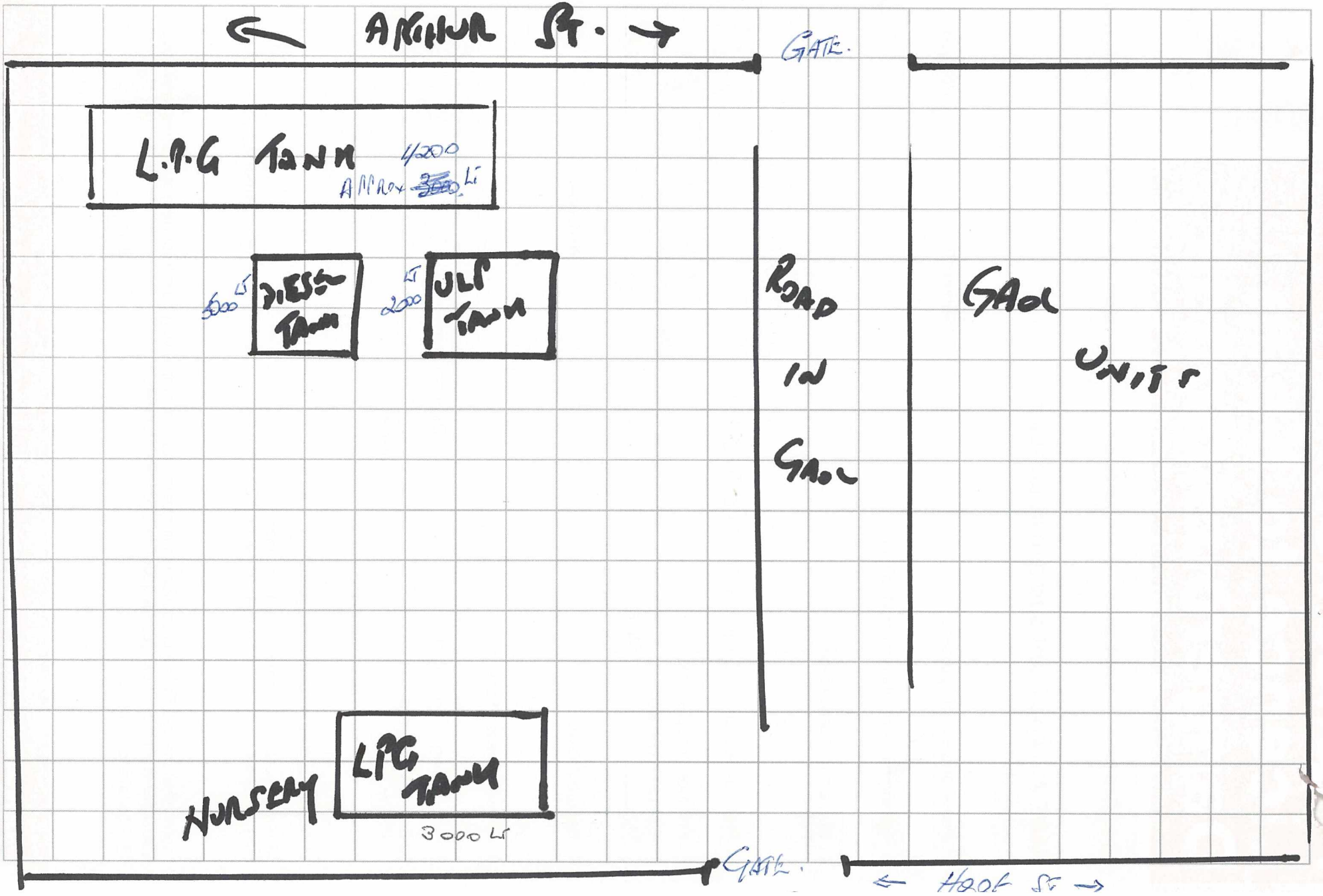
12 If a new site or for amendments to depots
Plan stamped by: Name of Accredited Consultant: — Date stamped:

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant: [signature] — Date: 25.3.96

Please send your application, marked *CONFIDENTIAL*, to:
Dangerous Goods Licensing, Level 3, Locked Bag 10, Clarence Street, SYDNEY NSW 2000

Site Sketch Please carefully read the instructions on page 3 of the guide before sketching the site.



PART B

PART C – Dangerous Goods Storage *Complete one section per depot.*

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

Depot Number	Type of depot	Depot Class	Maximum storage capacity
1	ROOFLESS STORE	2.1	~~3000~~ 4200 LT

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1075	PETROLEUM GASES LIQUEFIED	2.1	II	L.P.G.	~~4200~~ ~~3000~~	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity
2	UNDER GROUND TANK.	3	5000 LT

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1268		3	III			

Depot Number	Type of depot	Depot Class	Maximum storage capacity
3	UNDER GROUND TANK		2000 LT.

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1203.	PETROL	3	III	PREMIUM UNLEADED	2000	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity
4	ROOFLESS STORE	2.1	1000 L

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1075	PETROLEUM GASES LIQUEFIED	2.1	II	LPG.	3000	L

PART C – Dangerous Goods Storage *Complete one section per depot.*

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

Depot Number	Type of depot	Depot Class	Maximum storage capacity
2	ROOFED STORE.	8	6 x 25L

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
UN 1479	LAUNDRY BLEACH	8	III	CHLOR 25	25	L
UN 1824	" EMULSIFIER	8	III	EMULSIFIER	25	L
UN 1791	SODIUM HYPOCHLORITE	8	III	LIQUID BLEACH	25	L
UN 1824	LIQUID BUILDER	8	II	SODIUM HYDROXIDE	25	L

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

Hazardous Materials Survey and Register

Former Grafton Correctional Centre,
185 Arthur Street, Grafton NSW 2460

Project No. RGS33320.1

Report prepared for –
Regional Geotechnical Solutions Pty Ltd

25 August 2022
BPE22095-R01

Quality information

Revision history

Item	Description
Revision	Original
Description	Hazardous Materials Survey and Register – Former Grafton Correctional Centre, 185 Arthur Street, Grafton NSW 2460
Date	25 August 2022
Report Author	Joel Parkin – Licensed Asbestos Assessor LAA001121 Ballpark Environmental Pty Ltd
Technical Reviewer	Andrew Ballard – Licensed Asbestos Assessor LAA001078 Ballpark Environmental Pty Ltd CEnvP

Distribution

Report Status	No. of copies	Format	Distributed to	Date
Original	1	PDF	Regional Geotechnical Solutions Pty Ltd	25 August 2022
Original	1	PDF	Ballpark Environmental Pty Ltd	25 August 2022

25 August 2022

Our ref: BPE22095-R01

Regional Geotechnical Solutions Pty Ltd
14/ 25-27 Hurley Drive,
Coffs Harbour, NSW 2450

Sent via email: simon.k@regionalgeotech.com.au

Attention: Simon Keen, Associate Geotechnical Engineer

Dear Simon,

RE: Hazardous Materials Survey & Register – Former Grafton Correctional Centre, 185 Arthur Street, Grafton NSW 2460

Ballpark Environmental Pty Ltd is pleased to present the hazardous materials register prepared following a hazardous materials survey of the accessible external and internal areas of the former Grafton Correctional Centre located on part of Lot 1 DP758470, 185 Arthur Street, Grafton NSW, the site.

All activities undertaken in the preparation of this hazardous materials survey are subject to the methodologies and limitations contained within this report.

We trust that this report and register meets with your requirements. If you require further information or assistance, please do not hesitate to contact us on (02) 6658 0585.

For and on behalf of Ballpark Environmental Pty Ltd

Andrew Ballard
Principal Environmental Scientist
Licensed Asbestos Assessor LAA001078
Certified Environmental Practitioner

Joel Parkin
Associate Environmental Engineer
Licensed Asbestos Assessor
LAA001121

Table of Contents

Table

Appendices

Executive Summary

Ballpark Environmental Pty Ltd conducted a hazardous materials survey of the former Grafton Correctional Centre located on part of Lot 1 DP758470, 185 Arthur Street, Grafton NSW, the site.

The objective of the hazardous materials survey was to identify hazardous materials that may be present in accessible areas on this site.

Andrew Ballard and Joel Parkin, Licensed Asbestos Assessors (LAA), from Ballpark Environmental carried out the survey of the site on Thursday 11 August 2022.

A summary of the hazardous materials survey findings is provided in Table 1.

Table 1: Summary of Hazardous Materials Survey Findings

Hazardous Material	Identified on Site
Friable Asbestos Containing Material (ACM)	No
Non-Friable (Bonded) Asbestos/ACM	No
Unbonded / Friable Synthetic Mineral Fibre (SMF)	No
Bonded SMF	**YES**
Lead-based paint	No
Capacitors with Polychlorinated Biphenyls (PCBs)	No

Refer to Appendix A: Hazardous Materials Register for further details on the location and condition of hazardous materials identified on this site.

1. Introduction

Ballpark Environmental Pty Ltd has conducted a hazardous materials survey of the external and internal accessible areas of the former Grafton Correctional Centre located on part of Lot 1 DP758470, 185 Arthur Street, Grafton NSW, the site.

The non-destructive hazardous materials survey was undertaken to inform planning for the future redevelopment of this site.

Andrew Ballard and Joel Parkin LAA from Ballpark Environmental carried out the survey on Thursday 11 August 2022. From the site survey findings, a register of hazardous materials has been produced, in accordance with the requirements of the relevant Regulations, Codes of Practice and Guidance Notes. Full details of the survey findings are provided within the Hazardous Materials Register prepared for this site, see Appendix A.

The hazardous material survey assessments were conducted based on the condition of the materials at the time of inspection and the future anticipated activities at the site. No inspection can be guaranteed to locate all hazardous materials in a specific location and therefore this hazardous materials assessment cannot be regarded as absolute. Planned and future demolition to site structures may expose situations which were concealed or otherwise impractical to access during this assessment. We recommend that you review the limitations for this hazardous materials survey, see Section 6 – Limitations.

The work was undertaken in general accordance with the proposal prepared by Ballpark Environmental (Ref: BPE22095-P01, dated 21 July 2022).

2. Objective and Scope of Works

The objective of the hazardous material survey was to identify potential hazardous materials that may be present at the site, provide an assessment of the condition of the materials, and provide estimated quantities.

The scope of work involved Andrew Ballard and Joel Parkin, Ballpark Environmental LAA, visiting the site to conduct a non-destructive hazardous materials survey of the reasonably accessible external and internal areas of the former Grafton Correctional Centre buildings within the area shown on Figure 1.

Figure 1: Shows the buildings at the former Grafton Correctional Centre assessed for this Hazardous Materials Survey.

Hazardous materials identified in this report have been assessed on their condition on the day the survey was completed, Thursday 11 August 2022. The survey was conducted in accordance with NSW Work Health and Safety Regulation 2017 and the SafeWork NSW *Code of Practice - How to Manage and Control Asbestos in the Workplace (2019).*

3. Methodology

Hazardous material surveys are undertaken considering a risk management approach, in accordance with best practice, relevant statutory regulations and relevant Codes of Practice. A risk assessment was conducted based on a number of factors associated with asbestos materials identified during the survey and prioritised through Risk and Action Classifications.

The assessment involved the onsite investigation for the presence of Asbestos Containing Materials (ACM), synthetic mineral fibres (SMF), lead-based paint systems (LBP), and electrical capacitors which may contain polychlorinated biphenyls (PCBs). Based on the available data and the status of the site at the time of inspection, where items were identified, visual and/or analytical characterisation (where required) was performed and reported in the Hazardous Materials Register (see Appendix A).

The assessment was conducted on the basis of the condition, type, and location of the materials at the time of inspection. The scope of this investigation did not allow intrusive sampling techniques to be undertaken in all locations, and consequently the register may have limitations as a reference document for the purposes of renovation or demolition.

Only 'typical' suspected material occurrences are inspected and sampled, if required. Sample collection is performed in a non-destructive and non-invasive manner by the asbestos assessor. Presumptions, based on knowledge and experience, that inaccessible areas contain asbestos materials may also be made and stated within the register.

Samples collected are representative of the material sampled, individually identified, transported, analysed, and reported in accordance with relevant Statutory Regulations and Codes of Practice. External laboratories undertaking sample analysis are appropriately NATA certified for the analysis conducted.

The presence of asbestos in bulk samples is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques.

Onsite investigations cannot guarantee to locate the presence of restricted locations such as inline heaters in air conditioning systems. Whilst every effort will be made by Ballpark Environmental to locate and sample restricted areas, further access and detailed investigation may be required with the assistance of contractors and/or electricians.

Hazardous material surveys are restricted to areas that are reasonably accessible during the survey, with respect to the following:

- without contravention of relevant statutory requirements or codes of practice;
- without placing the asbestos assessor at undue risk;
- without dismantlement or damage to installed fixtures and fittings, plant, electrical equipment, machinery; and
- without dismantlement, demolition, or damage to finishes and structure.

Where the asbestos assessor encounters access restrictions during the survey, these situations are documented and reported.

No assessment can be regarded as absolute. Future refurbishments/demolition of the building may reveal materials concealed during the assessment, which were not accessible at the time of the hazardous materials survey.

The register is made up of relevant information gathered on site plus Ballpark Environmental's assessment of material condition. As the purpose of this hazardous materials survey is to assist in planning for the redevelopment of this site an assessment of risk and assignment of action ratings has not been provided. Reference to photographs, where available, is made in the Hazardous Materials Register along with sample identification and analysis results, where applicable, see Appendix A. Sample

analysis results from previous assessments may be utilised and referenced in this register, where available.

4. Assessment Findings

4.1. Asbestos Materials Identified

The findings of the assessments are presented in tabulated format in Appendix A: Hazardous Materials Register of this survey report.

Asbestos containing materials are referred to as either friable or bonded. Friable asbestos is in the form of a powder, or can be crumbled, pulverized, or reduced to powder by hand pressure when dry. ***Friable asbestos*** includes materials such as sprayed and thermal insulation, pipe lagging and millboard, and can release fibres with only minimal disturbance.

At the time of the survey no Friable ACM was identified on this site.

Non-Friable (Bonded) asbestos products are ones in which the asbestos fibres are bound within the matrix of the material. Non-Friable asbestos is difficult to damage or cause the release of fibres by hand and includes materials such as asbestos cement sheeting (fibre cement or fibro), vinyl floor tiles and Zelemite electrical switchboards. However, non-friable asbestos containing materials that have been subjected to weathering, physical damage, water damage, fire or other conditions may contain exposed fibres which could be released upon disturbance.

At the time of the survey no Non-Friable ACM was identified on this site.

4.2. Synthetic Mineral Fibres (SMF) Identified

SafeWork NSW advises that unbonded SMF insulation has no adhesives or cements and is loose material packed into a package. This type of material can be packed loose or mixed with adhesives or cements before, or during, installation. There are three main types of unbonded glass wool and rockwool materials including wet spray materials - where the fibres are mixed with cement and sprayed as fire protection in multi-storey buildings, loose-fill - where the material is sprayed into ceiling and cavity spaces of buildings, and dry spray - where densely packed material is blown dry into a closed stud cavity.

Bonded SMF insulation contains binding agents (such as adhesives or cements) that have been cured in the manufacturing process prior to packaging and delivery and the products have a specific shape, such as in a batt or blanket form or as compressed boards. Additionally, some bonded materials may be clad in various coverings on one or more sides. The advantage of the presence of binding agents is that they significantly reduce fibre release during handling.

Bonded SMF insulation batts were observed in the roof cavity, and ceiling linings of buildings in the former Grafton Correctional Centre. Bonded SMF insulation is also likely to be present in the hot water systems.

4.3. Lead Based Paint (LBP) Identified

The findings of the lead-based paint assessment are presented in tabulated format in Appendix A: Hazardous Materials Register of this survey report.

At the time of this survey lead based paints are defined as paint films which contains >0.1% lead by mass. It is noted that prior to 2017 the definition of a lead-based paint was >1.0% w/w. All paints manufactured in Australia in the period from the 1970's onwards for non-industrial use had to have less than 1% lead content. Paints manufactured since 1997 now contain less than <0.1% lead by mass and this limit has now been adopted for the definition of lead-based paint, see AS/NZS 4361.2:2017.

A total of 2 paint samples were couriered to Eurofins MGT NATA accredited laboratory in Sydney for analysis for the presence of lead paint as part of this hazardous material survey. The samples were collected from the following areas:

- Administration Building 015, External – Green flaking paint on metal grates in the perimeter northeast wall (Sample ID: 47802) reported a negative lead result of <0.01% w/w Pb.
- Clinic 041, Internal – White flaking paint on the covered walkway ceiling to the clinic (Sample ID: 47803) reported a negative lead result of <0.01% w/w Pb.

Based on our visual observations and these test results at the time of the survey no Lead Based Paint Systems were identified on this site.

4.4. Capacitors containing Polychlorinated Biphenyls (PCBs)

No PCB (Polychlorinated Biphenyls) containing capacitors, transformers or other electronic devices were identified during the survey.

4.5. Areas of Restricted Access

Where Areas of No Access have been identified it should be presumed that potentially hazardous materials, including asbestos, are present in these areas until further investigation can confirm or refute the presence.

No inspection can be guaranteed to locate all hazardous materials in a specific location. The assessment cannot be regarded as absolute, without extensive invasion of structures. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this non-destructive hazardous materials survey.

The following areas had no access/limited access at the time of the hazardous materials survey:

- Roof of the building – height constraint
- Internal roof cavity above internal ceiling – height constraint & confined spaces
- Subfloor areas beneath concrete slabs and buildings – non-destructive survey/ confined spaces
- Beneath ceramic tiles, wall cavities, concrete slabs, subfloors, and within internal wall partitions – non-destructive survey

- Fire doors were not sampled and should be assumed to contain ACM until laboratory testing proves otherwise – non-destructive survey.

5. Recommendations

The recommendations, conclusions or stability of hazardous and asbestos materials referred to in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Safety Data Sheets, Work Instructions, or reasonable work practices.

Appendix A contains the Hazardous Materials Register which details the hazardous materials identified or suspected in the areas surveyed. The register is in tabular form and flows from left to right starting with the material description, then through additional information including estimated quantity, condition, and test results. The person conducting business or undertaking (PCBU) for this site should decide the most appropriate controls based on such factors as risk, detailed knowledge of workplaces and procedures, plans for demolition of the buildings etc.

5.1. Asbestos Containing Materials

At the time of the survey no Bonded or Friable ACM was identified on this site.

Prior to commencing any future maintenance, renovations or demolition works the Hazardous Materials Register provided in Appendix A is to be reviewed. If any materials that are not referenced in this hazardous materials survey report and register are suspected of containing asbestos are encountered, then works must cease and a licensed asbestos assessor should be contacted to determine whether the suspicious material contains asbestos.

5.2. Synthetic Mineral Fibre Materials

Based on the findings of this hazardous materials survey, it is recommended that prior to any demolition, partial demolition, renovation or refurbishment, synthetic mineral fibre materials likely to be disturbed by those works should be removed in accordance with the NOHSC *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC:2006 (1990)].

6. Limitations

Ballpark Environmental has conducted work concerning the hazardous materials status of the site which is the subject of this report and has prepared this report on the basis of that assessment.

The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. This report and the associated services performed are in accordance with the scope of services set out in the contract between Ballpark Environmental and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Ballpark Environmental derived the data in this report primarily from visual inspections, examination of available records, interviews with individuals with information about the site, and if requested, limited sample collection and analysis made on the dates indicated. In preparing this report, Ballpark Environmental has relied upon, and presumed accurate, certain information provided by government authorities, the Client and others identified herein.

Limitations also apply to analytical methods used in the identification of substances (or parameters). These limitations may be due to non-homogenous material being sampled (i.e., the sample to be analysed may not be representative), low concentrations, the presence of 'masking' agents and the restrictions of the approved analytical technique. As such, non-statistically significant sampling results can only be interpreted as 'indicative' and not used for quantitative assessments.

The data, findings, observations, conclusions, and recommendations in the report are based solely upon the state of the site at the time of the investigation. The passage of time, manifestation of latent conditions or impacts of future events (e.g., changes in legislation, scientific knowledge, land uses, etc.) may render the report inaccurate. In those circumstances, Ballpark Environmental shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of the report.

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in connection with the provisions of the agreement between Ballpark Environmental and the Client. Ballpark Environmental accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties.

It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable, and timely manner.

6.1. Asbestos

No inspection can be guaranteed to locate all asbestos within a building. The assessment cannot be regarded as absolute, without extensive invasion of the building. Refurbishment or demolition of the building may expose situations, which were concealed or otherwise impractical to access during this assessment.

Ballpark Environmental asbestos assessors take samples at any situations known or suspected, to contain asbestos. Where the analysis determines that No Asbestos is

Detected (NAD) the samples are listed in the report to provide information for future assessments.

Representative sampling is defined as one like sample per consistent material type, situation, or item. In these instances, only one test sample will be collected for analytical confirmation and the results expressed as consistent and typical of the site.

Due to the very low concentration of asbestos fibres and the non-homogenous matrix of vinyl floor tiles, false negative results may be obtained. Therefore, the accuracy of all results cannot be guaranteed.

Notably, with some asbestos containing bulk material it can be very difficult, or impossible to detect the presence of asbestos using the polarised light microscopy analytical method, even after ashing or disintegration of samples. This is due to the low grade or small length, or diameter of asbestos fibres present in the material, or attributed to the fact that, very fine fibres have been distributed individually throughout the materials.

The analysis of many asbestos products used as a component of insulation materials, may be compromised in instances where the material has been heat affected, as heat may alter the morphology of the fibrous material.

The Client must not rely on an inspection or report as indicating that a site is “asbestos free”. All that the report can be relied upon to show is that no asbestos was found (or that only such asbestos was found as was reported to be found) in the course of the inspection. The findings of the report must be considered together with the specific scope and limitations of the type of inspection undertaken.

The recommendations, conclusions or stability of asbestos materials contained in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Material Safety Data Sheets, Work Instructions, or reasonable work practices.

7. References

Australia and New Zealand Environment and Conservation Council (ANZECC), *Polychlorinated Biphenyls Management Plan*, 1999

ANZECC, *Identification of PCB – Containing Capacitors*, 1997

Australian/New Zealand Standard, *Guide to hazardous paint management. Part 2: Lead paint in residential, public, and commercial buildings*. AS/NZS 4361.2:2017

National Occupational Health and Safety Commission, *Code of Practice for the Management and Control of Asbestos in Workplaces*; [NOHSC: 2018 (2005)].

National Occupational Health and Safety Commission, *Code of Practice for the Safe Removal of Asbestos* [NOHSC: 2002 (2005)]

National Occupational Health & Safety Commission, *Australian Exposure Standards for Atmospheric Contaminants in the Workplace* [NOHSC 1003 (2005)]

National Occupational Health and Safety Commission, *Approved Criteria for Classifying Hazardous Substances*, [NOHSC: 1008 (2002)]

National Occupational Health and Safety Commission, *List of Designated Hazardous Substances*, [NOHSC: 10005 (1999)]

National Occupational Health and Safety Commission, *The National Model regulations for the Control of Workplace Hazardous Substances,* [NOHSC: 1005 (1994)]

National Occupational Health and Safety Commission, *Code of Practice for the Safe Use of Synthetic Mineral Fibres,* [NOHSC: 2006 (1990)].

Noel Arnold & Associates, *Hazardous Materials Survey Report (Draft) – Grafton Correctional Centre, 170 Hoof Street, Grafton NSW*. Report prepared for NSW Department of Services, Technology and Administration. Noel Arnold & Associates (2010).

SafeWork NSW, *Code of Practice - How to Manage and Control Asbestos in the Workplace* (2019)

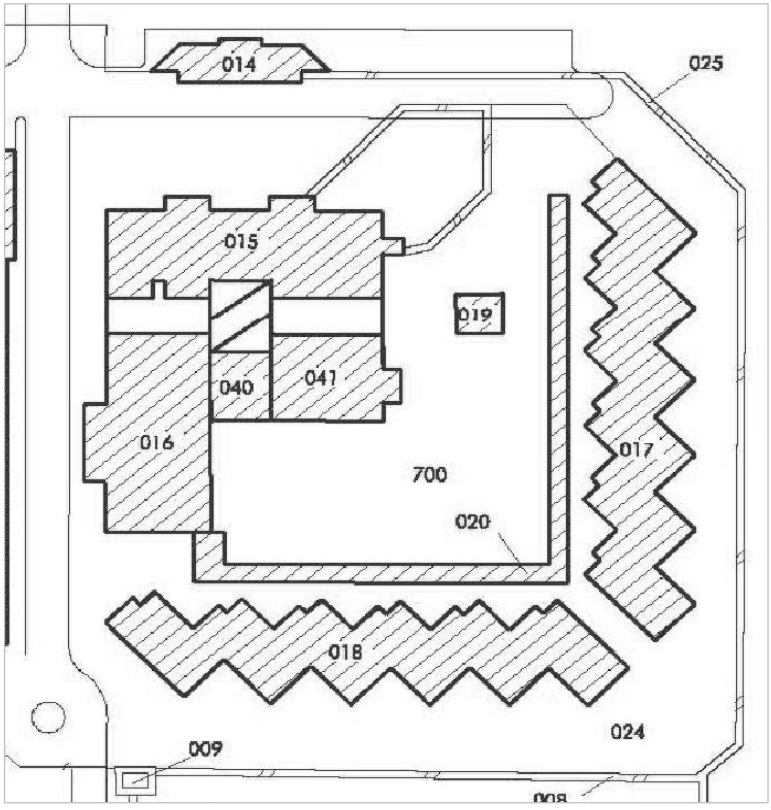
SafeWork NSW, *Code of Practice - How to Safely Remove Asbestos* (2019)

Work Health and Safety Act 2011 and Regulations (Commonwealth, NSW, ACT, NT & QLD)

Appendix A
Hazardous Materials Register

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details	Material Details	Photograph



Facility Description	
014	Gatehouse Area B
015	Administration Building (Cat C)
040	Inmate Activities
041	Clinic
016	Prisoner Sport Facilities & Activities
019	Gazebo
017	C Wing
018	D Wing
020	Cover Walkway

Hazardous Materials Register

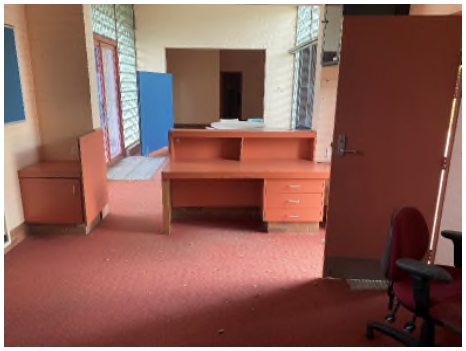
Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

014 - Gatehouse Area B

Asbestos Containing Material

Location:	Internal/ External	**Sample ID:**	VO
Floor:	Ground	**Result:**	NAD
Room:	014	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	N/A	**Accessibility:**	N/A
Quantity (~m^2):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Areas of FCS previously tested by NA 2010 and found to be negative with no asbestos detected include: - external southern eave assumed negative same as sample ID: 79081-16. - meals room sink, bituminous pad underneath sink, sample ID: 79081-35.		



Lead Based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the building (014).

Synthetic Mineral Fibre

Comment:	No sample collected SMF ceiling insulation assumed to be present in roof cavity and the water heater under sink.

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details | **Material Details** | **Photograph**

015 - Administration Building (Cat C)

Asbestos Containing Material

Location:	External	**Sample ID:**	10002
Floor:	Ground	**Result:**	NAD
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	Eaves	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the external northern eave lining at the entry to the building. The sample tested negative with no asbestos detected. The remaining external FCS eave lining on the Ground Floor and Level 1, including the infill panels in photograph, are assumed same non asbestos FCS.		

Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-19)
Floor:	Ground	**Result:**	NAD
Room:	Visits Area	**Friable/Non-Friable:**	N/A
Element:	Infill panel	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No sample collected of the infill panels above the visit area. Previously sampled by NA 2010 and tested negative with no asbestos detected.		

Location:	Internal	**Sample ID:**	10003
Floor:	Ground	**Result:**	NAD
Room:	Visitor Male & Female Toilets	**Friable/Non-Friable:**	N/A
Element:	Ceiling	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the internal ceiling sheeting of the Male visitors toilet. The sample tested negative with no asbestos detected. The walls in the male and female visitors toilet were previously sampled by NA 2010 (Sample ID: 79081-18 & 79081-19) and were negative with no asbestos detected.		

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph
Location:	Internal	**Sample ID:**	10013A&B	
Floor:	Ground	**Result:**	NAD	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	Floor	**Concentration:**	N/A	
Type:	Vinyl/ adhesive	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	Sample was collected from the internal ground floor vinyl (green pattern) in the reception area. The sample tested negative with no asbestos detected.			
Location:	Internal	**Sample ID:**	10004	
Floor:	Level 1	**Result:**	NAD	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	Infill panel	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	Sample was collected from the infill panel in the northern end of the telecom cupboard on Level 1. The sample tested negative with no asbestos detected.			
Location:	Internal	**Sample ID:**	10005	
Floor:	Level 1	**Result:**	NAD	
Room:	Storeroom	**Friable/Non-Friable:**	N/A	
Element:	Wall	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	Sample was collected from the southern wall of the Level 1 store room. The sample tested negative with no asbestos detected.			
Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-22)	
Floor:	Level 1	**Result:**	NAD	
Room:	Male & Female Toilets	**Friable/Non-Friable:**	N/A	
Element:	Partition Wall	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No sample collected from the internal partition walls in the male and female toilets. Previously sampled in the male toilet by NA 2010 and tested negative with no asbestos detected. The female partition walls assumed same non-asbestos FCS.			

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph
Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-21)	
Floor:	Level 1	**Result:**	NAD	
Room:	Male & Female Toilets	**Friable/Non-Friable:**	N/A	
Element:	Ceiling	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No sample collected from the internal FCS ceiling of the male and female toilets. Previously sampled in the male toilet by NA 2010 and tested negative with no asbestos detected. The female toilet ceiling lining assumed same non-asbestos FCS.			
Location:	Internal	**Sample ID:**	Assumed same as NA 2010 (ID: 79081-21)	
Floor:	Level 1	**Result:**	Assumed not ACM	
Room:	Toilet (Female)	**Friable/Non-Friable:**	N/A	
Element:	Infill panel	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No sample collected from the FCS infill panel above the entry door to the female toilet. Assumed same as FCS sample ID: 79081-21 previously sampled by NA 2010, which tested negative with no asbestos detected.			
Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-20)	
Floor:	Level 1	**Result:**	NAD	
Room:	Meals Room	**Friable/Non-Friable:**	N/A	
Element:	Sink Pad	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No sample collected from the bituminous pad underneath Meals Room sink. Previously sampled by NA 2010 and tested negative with no asbestos detected.			
Location:	Internal	**Sample ID:**	VO (Same as ID:10008)	
Floor:	Level 1	**Result:**	Assumed not ACM	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	Floor	**Concentration:**	N/A	
Type:	Vinyl/ adhesive	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No samples collected from the vinyl (brown) flooring observed on Level 1 and is assumed same as non-asbestos vinyl flooring tested in Building 040 (ID: 10008).			

Hazardous Materials Register

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

Lead-based Paint

Location:	External	**Sample ID:**	47802
Floor:	Ground	**Result:**	N/A
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	< 0.01% w/w Pb
Type:	Paint	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Fair	**Action Rating:**	N/A
Comment:	Sample was collected from the flaking paint on the metal grates in the perimeter northeast wall of Building 015. Sample reported lead (Pb) < 0.01% w/w which is below the lead threshold value of < 0.1% Pb w/w for a LBP.		

Synthetic Mineral Fibre

Location:	Internal	**Sample ID:**	VO
Floor:	Level 1	**Result:**	SMF
Room:	Ceiling Cavity	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Good	**Action Rating:**	N/A
Comment:	No sample collected SMF ceiling insulation observed in the Level 1 roof cavity.		

Location:	Internal	**Sample ID:**	VO
Floor:	Level 1	**Result:**	SMF
Room:	Plant Room	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Good	**Action Rating:**	N/A
Comment:	No sample collected from the hot water system assumed to contain SMF insulation.		

Location:	Internal	**Sample ID:**	VO
Floor:	Ground	**Result:**	SMF
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Fair	**Action Rating:**	N/A
Comment:	No sample collected SMF ceiling insulation sarking observed in the covered outdoor area adjoining to the northeast of the building .		

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

016 - Prisoner Sport Facilities & Activities

Asbestos Containing Material

Location:	Internal	**Sample ID:**	10006
Floor:	Ground	**Result:**	NAD
Room:	Props Room	**Friable/Non-Friable:**	N/A
Element:	Ceiling	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the internal Props Room FCS ceiling lining at the rear of the building. The sample tested negative with no asbestos detected.		

Location:	External	**Sample ID:**	VO (Same as ID:10002)
Floor:	N/A	**Result:**	Assumed not ACM
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	Eaves & Infill Panels	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No sample collected from eaves or infill panels, height constraints. Assumed same as samples ID: 10002 and NA 2010, ID: 79081-16, which both tested negative with no asbestos detected.		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the building (016).

Synthetic Mineral Fibre

Location:	Internal	**Sample ID:**	VO
Floor:	Ground	**Result:**	SMF
Room:	Props Room	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Fair	**Action Rating:**	N/A
Comment:	No sample collected SMF ceiling insulation observed in the Props Room.		

Location:	Internal	**Sample ID:**	VO
Floor:	Ground	**Result:**	SMF
Room:	Ceiling Cavity	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Good	**Action Rating:**	N/A
Comment:	No sample collected SMF insulation sarking assumed to be present under internal metal roof lining.		

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details | **Material Details** | **Photograph**

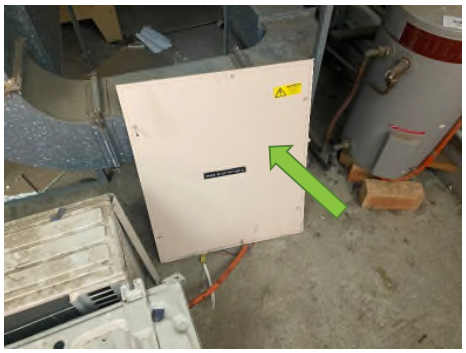
041 - Clinic

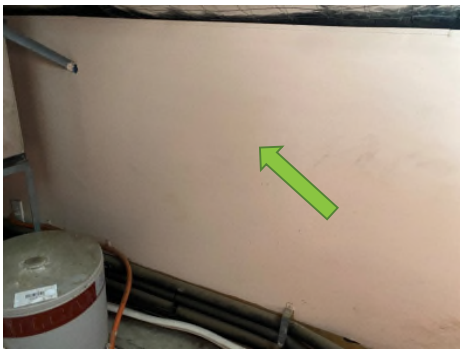
Asbestos Containing Material

Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-15)
Floor:	Ground	**Result:**	NAD
Room:	Toilet	**Friable/Non-Friable:**	N/A
Element:	Ceiling	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No sample collected from the internal toilet FCS ceiling lining. Previously tested by NA 2010 (Sample ID: 79081-15) and reported a negative results with no asbestos detected.		

Location:	Internal	**Sample ID:**	NA 2010 (ID: 79081-14)
Floor:	Ground	**Result:**	NAD
Room:	Night Officers Room	**Friable/Non-Friable:**	N/A
Element:	Sink Pad	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No sample collected from the sink pad. Previously sampled by NA 2010 (Sample ID: 79081-14) and tested negative with no asbestos detected.		

Location:	Internal	**Sample ID:**	VO
Floor:	Roof Cavity	**Result:**	Assumed not ACM
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	Infill panel	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No sample collected from the smoke detector FCS cover strip observed in the roof cavity, or the southern FCS wall sheeting. The FCS cover strip and sheeting are assumed same non asbestos FCS as samples ID: 10006, 10007 & 10012.		





Hazardous Materials Register

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph
Location:	Internal	**Sample ID:**	10007	
Floor:	Ground	**Result:**	NAD	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	Ceiling	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	Sample was collected from the internal walkway FCS ceiling sheeting. The sample tested negative with no asbestos detected.			

Location:	External	**Sample ID:**	VO	
Floor:	Ground	**Result:**	Assumed not ACM	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	Eaves & Infill Panels	**Concentration:**	N/A	
Type:	FCS	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	No sample collected from eaves or infill panels, height constraints. Assumed same as samples ID: 10002 and NA 2010, (Sample ID: 79081-16) which tested negative with no asbestos detected.			

Lead-based Paint

Location:	Internal	**Sample ID:**	47803	
Floor:	Ground	**Result:**	N/A	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	N/A	**Concentration:**	< 0.01%	
Type:	Paint	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	N/A	**Action Rating:**	N/A	
Comment:	Sample was collected from the flaking paint on the ceiling lining in the walkway entry to the Clinic 041. Sample reported lead (Pb) < 0.01% w/w which is below the lead threshold value of < 0.1% Pb w/w for a LBP. No other potential LBPs were observed in the internal and external areas of the building (041).			

Synthetic Mineral Fibre

Location:	Internal	**Sample ID:**	VO	
Floor:	Roof Cavity	**Result:**	SMF	
Room:	N/A	**Friable/Non-Friable:**	N/A	
Element:	N/A	**Concentration:**	N/A	
Type:	Insulation	**Accessibility:**	N/A	
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A	
Condition:	Good	**Action Rating:**	N/A	
Comment:	No sample collected SMF ceiling insulation observed in the roof cavity of the building (041).			

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph
Location:	Internal	**Sample ID:**	VO	
Floor:	Level 1	**Result:**	SMF	
Room:	Ceiling Cavity	**Friable/Non-Friable:**	N/A	
Element:	N/A	**Concentration:**	N/A	
Type:	Insulation	**Accessibility:**	N/A	
Quantity (~m^2):	-	**Likelihood of Disturbance:**	N/A	
Condition:	Good	**Action Rating:**	N/A	
Comment:	No sample collected from the hot water system assumed to contain SMF insulation.			

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

040 - Inmate Activities

Asbestos Containing Material

Location:	Internal	**Sample ID:**	10008a/b
Floor:	Ground	**Result:**	NAD
Room:	Library	**Friable/Non-Friable:**	N/A
Element:	Floor	**Concentration:**	N/A
Type:	Vinyl/ adhesive	**Accessibility:**	N/A
Quantity (~m^2):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the internal ground floor vinyl (brown pattern) in the library area. The sample tested negative with no asbestos detected.		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the building (040).

Synthetic Mineral Fibre

Comment:	No samples collected. No SMF identified in the internal and external areas of the building (040).

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

017 - C Wing

Asbestos Containing Material

Location:	Internal	**Sample ID:**	10009
Floor:	Ground	**Result:**	NAD
Room:	Dining Area	**Friable/Non-Friable:**	N/A
Element:	Floor	**Concentration:**	N/A
Type:	Vinyl/ adhesive	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the internal ground floor vinyl (pale brown pattern) in the dining area. The sample tested negative with no asbestos detected. The same vinyl was observed throughout all C Wing accommodation (Ground & Level 1) and assumed same non-asbestos vinyl flooring.		

Location:	External	**Sample ID:**	10010
Floor:	N/A	**Result:**	NAD
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	Column	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the external FCS support column. The sample tested negative with no asbestos detected. The same FCS columns were observed at entry to all accomidation buildings in C & D Wing and are assumed same non asbestos FCS.		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the building (017).

Synthetic Mineral Fibre

Location:	Internal	**Sample ID:**	VO
Floor:	N/A	**Result:**	SMF
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Good	**Action Rating:**	N/A
Comment:	No sample collected SMF insulation sarking assumed under metal roofing. SMF insulation is also assumed to be present within the hotwater system.		

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details	Material Details	Photograph

018 - D Wing

Asbestos Containing Material

Location:	Internal	**Sample ID:**	10011a/b
Floor:	Ground	**Result:**	NAD
Room:	Dining Area	**Friable/Non-Friable:**	N/A
Element:	Floor	**Concentration:**	N/A
Type:	Vinyl/ adhesive	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the internal ground floor vinyl (grey) in the dining area. The sample tested negative with no asbestos detected. The same vinyl was observed throughout all D Wing accommodation (Ground & Level 1) and assumed same non asbestos vinyl flooring.		

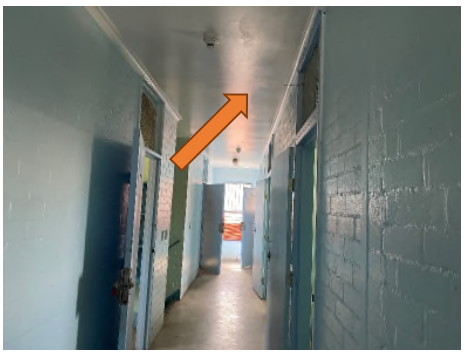
Location:	Internal	**Sample ID:**	10010
Floor:	N/A	**Result:**	NAD
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	Infill panel	**Concentration:**	N/A
Type:	FCS	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	Sample was collected from the FCS infill panel observed in the D1 accomodation block in the Level 1 cupboard. The sample tested negative with no asbestos detected. A similar infill panel was observed in the shower ceiling and assumed same non asbestos FCS.		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the building (018).

Synthetic Mineral Fibre

Location:	Internal	**Sample ID:**	VO
Floor:	N/A	**Result:**	SMF
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	Insulation	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	Good	**Action Rating:**	N/A
Comment:	No sample collected SMF insulation sarking assumed under metal roofing. SMF insulation is also assumed to be present within the hotwater system.		



Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details		Material Details		Photograph

019 - Gazebo

Asbestos Containing Material

Location:	External	**Sample ID:**	VO
Floor:	N/A	**Result:**	NAD
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	N/A	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No samples collected. No potential ACM identified in the gazebo (019).		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the gazebo (019).

Synthetic Mineral Fibre

Comment:	No samples collected. No SMF identified in the internal and external areas of the gazebo (019).

020 - Covered Walkway

Asbestos Containing Material

Location:	External	**Sample ID:**	VO
Floor:	N/A	**Result:**	NAD
Room:	N/A	**Friable/Non-Friable:**	N/A
Element:	N/A	**Concentration:**	N/A
Type:	N/A	**Accessibility:**	N/A
Quantity (~m²):	-	**Likelihood of Disturbance:**	N/A
Condition:	N/A	**Action Rating:**	N/A
Comment:	No samples collected. No potential ACM identified in the covered walkway (020).		

Lead-based Paint

Comment:	No samples collected. No potential LBP identified in the internal and external areas of the covered walkway (020).

Synthetic Mineral Fibre

Comment:	No samples collected. No SMF identified in the internal and external areas of the covered walkway (020).

Hazardous Materials Register

Surveyor:	Andrew Ballard & Joel Parkin	Site / Location:	Former Grafton Correctional Centre	Review Date:	N/A

Building Details	Material Details	Photograph

Restricted Areas or No Access

Roof of the building – height constraint

Internal roof cavity above internal ceiling – height constraint & confined spaces

Subfloor areas beneath concrete slabs and buildings – non-destructive survey/ confined spaces

Beneath ceramic tiles, wall cavities, concrete slabs, subfloors and within internal wall partitions – non-destructive survey

Fire doors were not sampled and should be assumed to contain ACM until laboratory testing proves otherwise - non-destructive survey.

Abbreviations

N/A Not Applicable
VO Visual Observation
NAD No Asbestos Detected
ACM Asbestos Containing Materials
FCS Fibre Cement Sheet
LBP Lead Based Paint
SMF Synthetic Mineral Fibre


Negative for Asbestos


Lead-based Paint


Positive for Asbestos


Synthetic Mineral Fibre

Glossary

The following terminology is used within the register to describe the materials identified.

Material Descriptors

CH	Chrysotile (white) Asbestos
CR	Crocidolite (blue) Asbestos
AM	Amosite (brown) Asbestos
NAD	No Asbestos Detected
ACM	Asbestos Containing Material or product
LBP	Lead Based Paint
PCB	Polychlorinated Biphenyls
SMF	Synthetic Mineral Fibres

Acronyms

AAS	Atomic Absorption Spectroscopy
AMP	Asbestos Management Plan
A/C	Air Conditioning
EDAX	Energy Dispersive X-ray Analysis
FCS	Fibre Cement Sheet
LAA	Licensed Asbestos Assessor
NOHSC	National Occupational Health and Safety Commission
NATA	National Association of Testing Authorities, Australia
PCBU	Person Conducting Business or Undertaking
PLM	Polarised Light Microscopy
PPE	Personal Protective Equipment
RPD	Respiratory Protective Device
RPE	Respiratory Protective Equipment
SEM	Scanning Electron Microscopy
VO	Visual Observation

Appendix B

Laboratory Certificates of Analysis

Environmental & Laboratory Solutions Pty Ltd

Brisbane Laboratory
1/42 Finsbury Street
Newmarket QLD 4051
Phone: 07 3256 2302

Sydney Laboratory
G.05/64 Talavera Road
Macquarie Park NSW 2113
Phone: 02 9878 0451

Asbestos Identification Analysis Report
Ref. 00036016-B5

Client Name & Address
Ballpark Environmental Pty Ltd
Suite 2 192 Pacific Highway
Coffs Harbour NSW 2450

Number of Samples Received
12

Site Address / Client Project Ref.
BPE22095
Former Grafton Correctional Centre
185 Arthur Street
Grafton NSW 2460

Client Contact
Andrew Ballard

Date Sampled
As Received

Date Analysed
Tuesday, 16 August 2022

Sampled by
As Received

Date Received
Monday, 15 August 2022

Date Issued
Tuesday, 16 August 2022

Test Method:
The sample(s) were analysed using Polarised Light Microscopy (incl. Dispersion Staining) in accordance with Australian Standard AS4964-2004, *Method for the qualitative identification of asbestos in bulk samples;* and, Environmental & Laboratory Solutions' (ELS) supplementary in-house work instructions, *Test Method One - Asbestos in Bulk Materials.*

Definitions:
SMF: Synthetic Mineral Fibre, MFUT: Mineral Fibre of Unknown Type

Notes:
Results of analysis are reported within the table on the following page(s). The tests were performed at ELS' Brisbane laboratory. Analysis of non-homogenous samples (incl. soil, dust, debris, tape swab samples etc.) and sampling are not covered by the scope of ELS' NATA accreditation. ELS do not accept responsibility for the sampling or sample representation of any sample submitted by third parties. The results within this test report relate only to the samples submitted for testing. Samples will be retained for approximately three months, and then disposed of unless otherwise directed. Reported sample size measurements are approximate. This document must not be reproduced except in full.

Report Revision History:

Rev #	Date	Description	Approval Authority
-	16/08/2022	Original document.	JA

Approved Identifier:
Jesse Anderson

Approved Signatory:

Jesse Anderson, Quality Manager

Accreditation No. 18452
Accredited for compliance with ISO/IEC 17025 – Testing.

ELS Sample ID	Client Sample Reference	Sample Description	Sample Size	Type of Asbestos Present	Other Fibres
00036016-B5-001	10002 External, Building 15, Entry Eave, FCS cream paint	Beige fibre cement	30 x 15 x 4 mm	No Asbestos Detected	Organic
00036016-B5-002	10003 Internal, Building 15, Visitors area male toilet, FCS ceiling, cream paint	Beige fibre cement	15 x 10 x 3 mm	No Asbestos Detected	Organic
00036016-B5-003	10004 Internal, Building 15, Telecon, FCS infill panel, cream paint	Beige fibre cement, pink paint	12 x 6 x 2 mm	No Asbestos Detected	Organic
00036016-B5-004	10005 Internal, building 15, Level 1 store, FCS wall, Cream paint	Beige fibre cement	15 x 10 x 2 mm	No Asbestos Detected	Organic
00036016-B5-005	10006 Internal, Building 016, Props store, FCS ceiling, White paint	Beige fibre cement	60 x 15 x 6 mm	No Asbestos Detected	Organic
00036016-B5-006	10007 External, Building 41, Covered walkway, FCS ceiling, White paint	Beige fibre cement material	110 x 10 x 2 mm	No Asbestos Detected	Organic
00036016-B5-007	10008 Internal, building 40, Library, Brown vinyl & adhesive	Red flexible vinyl sheet	30 x 20 x 2 mm	No Asbestos Detected	-
00036016-B5-008A	10009 Internal, Building C1, Ground floor, Brown vinyl & adhesive	Brown flexible vinyl sheet	30 x 25 x 2 mm	No Asbestos Detected	-
00036016-B5-008B	10009 Internal, Building C1, Ground floor, Brown vinyl & adhesive	Residue of amber adhesive	30 x 25 x <1 mm	No Asbestos Detected	-
00036016-B5-009	10010 External, Building C1, Column, FCS, White paint	Beige fibre cement	15 x 3 x 2 mm	No Asbestos Detected	Organic

ELS Sample ID	Client Sample Reference	Sample Description	Sample Size	Type of Asbestos Present	Other Fibres
00036016-B5-010A	10011 Internal, Building D6, Grey vinyl & adhesive	Grey flexible vinyl sheet	25 x 20 x 2 mm	No Asbestos Detected	-
00036016-B5-010B	10011 Internal, Building D6, Grey vinyl & adhesive	Residue of amber adhesive	25 x 20 x <1 mm	No Asbestos Detected	-
00036016-B5-011	10012 Internal, Building D1, Ground floor, FCS loose sheet	Beige fibre cement sheet	90 x 50 x 5 mm	No Asbestos Detected	Organic
00036016-B5-012A	10013 Internal, Building 15, Entry, Green pattern vinyl & adhesive	Blue flexible vinyl layer	30 x 20 x 2 mm	No Asbestos Detected	-
00036016-B5-012B	10013 Internal, Building 15, Entry, Green pattern vinyl & adhesive	Grey adhesive layer	30 x 20 x 1 mm	No Asbestos Detected	-

eurofins | Environment Testing

Certificate of Analysis

Ballpark Environmental Pty Ltd
Suite 2, 192 pacific Highway
Coffs Harbour
NSW 2450

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Andrew Ballard & Joel Parkin**

Report **914247-S**
Project name
Project ID BPE22095
Received Date Aug 15, 2022

Client Sample ID			**47802**	**47803**
Sample Matrix			**Paint**	**Paint**
Eurofins Sample No.			**S22-Au0031813**	**S22-Au0031814**
Date Sampled			**Aug 11, 2022**	**Aug 11, 2022**
Test/Reference	LOR	Unit		
Lead (% w/w)	0.01	%	< 0.01	< 0.01

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Lead (% w/w)	Sydney	Aug 15, 2022	6 Months

- Method: LTM-MET-3040 Metals in Waters Soils & Sediments by ICP-MS

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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6 Monterey Road
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Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
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Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Sydney
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Girraween
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Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

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NATA# 1261 Site# 20794

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IANZ# 1327

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43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: Ballpark Environmental Pty Ltd
Address: Suite 2, 192 pacific Highway
Coffs Harbour
NSW 2450

Project Name:
Project ID: BPE22095

Order No.: PRICE BOOK 2017-18
Report #: 914247
Phone: 0400 566 088
Fax:

Received: Aug 15, 2022 10:01 AM
Due: Aug 18, 2022
Priority: 3 Day
Contact Name: Andrew Ballard & Joel Parkin

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Lead (% w/w)
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	47802	Aug 11, 2022		Paint	S22-Au0031813	X
2	47803	Aug 11, 2022		Paint	S22-Au0031814	X
Test Counts						2

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

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QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Lead (% w/w)	%	< 0.01			0.01	Pass	

Comments

Sample Integrity

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

Authorised by:

Robert Biviano	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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Rolleston,
Christchurch 7675
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IANZ# 1290

Sample Receipt Advice

Company name:	Ballpark Environmental Pty Ltd
Contact name:	Andrew Ballard & Joel Parkin
Project name:	Not provided
Project ID:	BPE22095
Turnaround time:	3 Day
Date/Time received	Aug 15, 2022 10:01 AM
Eurofins reference	914247

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Hannah Mawbey on phone : or by email: HannahMawbey@eurofins.com

Results will be delivered electronically via email to Andrew Ballard & Joel Parkin - info@ballparkenv.com.au.

Global Leader - Results you can trust

BALLPARK
ENVIRONMENTAL

Suite 2, 192 Pacific Highway
Coffs Harbour
NSW 2450 Australia
M: 0400 566 088
E. info@ballparkenv.com.au

Chain of Custody		Laboratory Quotation/ Order No:	**Price Book 2017-18**	**Project No.:**	**BPE22095**	Sheet 1 of 1
Dispatch to:	Sample Receipt - Eurofins Bldg A, Del Door 2, 179 Magowar Road GIRRAWEEN NSW 2145	Sampled By:	Andrew Ballard	Consigning Officer	*Andrew Ballard*	
				Date Dispatched	12-Aug-22	
Attention:	Sample receipt	Project Manager: (report results to)	info@ballparkenv.com.au	Courier Service:	TOLL	
				Consignment Note No.:	***M11 00903WODCD***	

Relinquished By:		Date:	Time:	Received By:	Date:	Time:
Andrew Ballard	Coffs Harbour	*12/08/2022*	*12:00*	Evelin Cimely	13/8/22	0.0 AM

Comments:	Sample Matrix	Container Type & Preservative	Sample No.	Sample Depth (m)	Date Sampled:	Analyses Required: Lead (Pb) as %w/w										Send to Eurofins Melbourne	HOLD	Sample Condition on Receipt
Building 15, NE courtyard, metal wall grate	Paint	Snaplock Bag	47802	NA	11-Aug-22	X												
Building 41, Covered walkway, ceiling	Paint	Snaplock Bag	47803	NA	11-Aug-22	X												

Special Laboratory Instructions: Pb paint detection limit to minimum 0.1% w/w Pb

Detection Limits: See above

Turnaround Required: 3 Day TAT Requested

#914287

Appendix B

Laboratory Test Result Sheets

REGIONAL GEOTECHNICAL SOLUTIONS

Comparison of Contamination Analysis Results with Adopted Investigation Levels (Results in mg/kg)

Client: Grafton Base Hospital Planning
Job No. RGS33320.1-AD
Project: Proposed Redevelopment of Former Grafton Correction Centre
Location: 170 Hoof Street, Grafton

SAMPLE	DEPTH	MATERIAL	ASBESTOS	TOTAL RECOVERABLE HYDROCARBONS					PAH		Pesticides Total		BTEX		PCBs	Heavy Metals							
	(m)			C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40	Total	b-a-p	OCP	OPP	Sum	Napthalene		As	Cd	Cr (total)#	Cu	Pb	Ni	Zn	Hg
S1	0 - 0.1	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	6	<1	13	14	26	9	72	<0.1
S2	0 - 0.1	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	6	<1	17	15	26	10	87	<0.1
S3	0 - 0.1	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	7	<1	16	19	28	12	76	<0.1
S4	0 - 0.1	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	11	13	56	6	72	0.1
S5	0 - 0.1	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	8	14	55	4	39	<0.1
S6	0 - 0.1	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	11	<5	8	<2	28	<0.1
D1 (S4 Duplicate)	0 - 0.1	Fill	--	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	5	<1	12	13	58	7	78	<0.1
D1 RPD%			----	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	4%	15%	8%	0%
CRITERIA (NEPM 2013)																							
Health Investigation Level (HIL):*	*0.001% (w/w)*	*NL*	*NL*	*NL*	*NL*	*NL*	*300*	*3*	*240*	*6*			*1*	*100*	*20*	*100#*	*600*	*300*	*400*	*7400*	*40*
*Health Screening Level (HSL)***		*50*	*110*	*NL*	*NL*	*NL*																	
*Ecological Screening Level (ESL)****		*280*	*120*	*1300*	*5600*	*NL*						*45-125*											
Ecological Investigation Level (EIL)@									*180*			*170*		*100*				*1100*					

CRITERIA:
* Health Based Investigation Levels for Residential A (NEPM 2013)
** Health Screening Level (F2) for residential land use and fine grained soil (clay), 0 - 1m depth
*** Ecological Screening Level for residential land use
@ Ecological Investigation Level - aged (>2 years) for residential landuse
# Total Chromium
Speciation testing confirmed only Chromium III present
<LOR - Below the laboratory limit of reporting

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2228872**	Page	: 1 of 12
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: MR SIMON KEEN	Contact	: Customer Services ES
Address	: Unit 14 25-27 Hurley Drive COFFS HARBOUR NSW, AUSTRALIA 2450	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS33320.1 Grafton Coreectional Centre	Date Samples Received	: 15-Aug-2022 08:40
Order number	: ----	Date Analysis Commenced	: 17-Aug-2022
C-O-C number	: ----	Issue Date	: 22-Aug-2022 18:23
Sampler	: ----		
Site	: 185 Arthur Street, Grafton		
Quote number	: EN/222		
No. of samples received	: 7		
No. of samples analysed	: 7		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- 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*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
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

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	S1	S2	S3	S4	S5
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2228872-001	ES2228872-002	ES2228872-003	ES2228872-004	ES2228872-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	10.1	19.5	15.7	14.7	11.2
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	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	616	648	641	728	630
APPROVED IDENTIFIER:	----	-	--	J.SPOONER	J.SPOONER	J.SPOONER	J.SPOONER	J.SPOONER
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	6	7	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	17	16	11	8
Copper	7440-50-8	5	mg/kg	14	15	19	13	14
Lead	7439-92-1	5	mg/kg	26	26	28	56	55
Nickel	7440-02-0	2	mg/kg	9	10	12	6	4
Zinc	7440-66-6	5	mg/kg	72	87	76	72	39
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	S1	S2	S3	S4	S5
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2228872-001	ES2228872-002	ES2228872-003	ES2228872-004	ES2228872-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<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								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	S1	S2	S3	S4	S5
				Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2228872-001	ES2228872-002	ES2228872-003	ES2228872-004	ES2228872-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	S1	S2	S3	S4	S5
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00	11-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2228872-001	ES2228872-002	ES2228872-003	ES2228872-004	ES2228872-005
				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	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ 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	%	**86.5**	**63.1**	**71.8**	**70.7**	**65.6**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**88.2**	**72.1**	**75.5**	**79.1**	**77.5**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**88.5**	**72.7**	**80.6**	**78.4**	**75.6**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**72.7**	**73.9**	**73.6**	**74.2**	**76.6**
2-Chlorophenol-D4	93951-73-6	0.5	%	**82.0**	**82.9**	**81.2**	**82.7**	**86.3**
2.4.6-Tribromophenol	118-79-6	0.5	%	**77.5**	**75.4**	**71.4**	**72.7**	**76.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**89.1**	**92.1**	**92.5**	**90.9**	**93.9**
Anthracene-d10	1719-06-8	0.5	%	**95.0**	**98.2**	**98.3**	**96.4**	**99.5**
4-Terphenyl-d14	1718-51-0	0.5	%	**83.4**	**86.3**	**87.0**	**85.2**	**88.6**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**85.9**	**79.1**	**83.0**	**96.2**	**97.4**
Toluene-D8	2037-26-5	0.2	%	**93.7**	**84.3**	**92.6**	**108**	**108**
4-Bromofluorobenzene	460-00-4	0.2	%	**99.2**	**92.1**	**99.6**	**96.9**	**94.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	S6	D1	----	----	----
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2228872-006	ES2228872-007	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.9	14.7	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	868	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	J.SPOONER	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	5	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	11	12	----	----	----
Copper	7440-50-8	5	mg/kg	<5	13	----	----	----
Lead	7439-92-1	5	mg/kg	8	58	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	7	----	----	----
Zinc	7440-66-6	5	mg/kg	28	78	----	----	----
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)			Sample ID	S6	D1	----	----	----
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2228872-006	ES2228872-007	--------	--------	--------
				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**	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	S6	D1	----	----	----
				Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2228872-006	ES2228872-007	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
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)			Sample ID	S6	D1	----	----	----
			Sampling date / time	11-Aug-2022 00:00	11-Aug-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2228872-006	ES2228872-007	--------	--------	--------
				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	%	**81.2**	**78.4**	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**95.8**	**93.3**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**91.5**	**92.5**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**77.1**	**77.4**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**86.6**	**89.7**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**74.6**	**75.9**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**93.0**	**98.9**	----	----	----
Anthracene-d10	1719-06-8	0.5	%	**98.4**	**89.0**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**86.8**	**91.7**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**78.8**	**78.5**	----	----	----
Toluene-D8	2037-26-5	0.2	%	**81.2**	**88.7**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**92.7**	**94.2**	----	----	----

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	S1 - 11-Aug-2022 00:00	Soil sample.
EA200: Description	S2 - 11-Aug-2022 00:00	Soil sample.
EA200: Description	S3 - 11-Aug-2022 00:00	Soil sample.
EA200: Description	S4 - 11-Aug-2022 00:00	Soil sample.
EA200: Description	S5 - 11-Aug-2022 00:00	Soil sample.
EA200: Description	S6 - 11-Aug-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