Coffs Harbour City Council

Preliminary Phase 1 Site Contamination Assessment

Proposed Cultural & Civic Space Project

23-31 Gordon Street, Coffs Harbour

Report No. RGS31785.1-AB

12 April 2019

REGIONAL GEOTECHNICAL SOLUTIONS

REGIONAL GEOTECHNICAL SOLUTIONS

Manning-Great Lakes
Port Macquarie
Coffs Harbour

RGS31785.1-AB

12 April 2019

Coffs Harbour City Council
2 Castle Street
COFFS HARBOUR NSW 2450

Attention: Ken Welham

Dear Ken

RE: Proposed Cultural & Civic Space Project – 23-31 Gordon Street, Coffs Harbour
Preliminary Phase 1 Site Contamination Assessment

Regional Geotechnical Solutions Pty Ltd (RGS) has completed a preliminary Phase 1 site contamination assessment at the site of the proposed Cultural & Civic Space Project that is to be located at 23-31 Gordon Street, Coffs Harbour (Lot 20 DP758258, Lot B DP346105 and Lot 123 DP749233). This report presents the results of the assessment.

The assessment includes a desktop review, intrusive soil sampling and laboratory testing of recovered soil samples. Based on the assessment undertaken the materials meet the requirements for a commercial/industrial site as detailed in the NEPM 2013 guidelines.

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

If you have any questions regarding this project, or require any further assistance with this project, please do not hesitate to contact the undersigned.

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

Prepared by

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1 INTRODUCTION

This report presents the results of a preliminary Phase 1 Site Contamination Assessment (SCA) undertaken by Regional Geotechnical Solutions Pty Ltd (RGS) at the site of the proposed cultural and civic space project that is to be constructed at 23-31 Gordon Street, Coffs Harbour, NSW (Lot 20 DP758258, Lot B DP346105 and Lot 123 DP749233).

Details of the proposed development (such as building layout, foundation loads, excavation depths, etc.) have not been provided. For the assessment, it has been assumed that the development will involve the construction of single or double storey structures and parking areas constructed with excavations of up to 3m anticipated.

The SCA presented herein was undertaken to provide a preliminary assessment regarding the suitability of the site for the proposed development from a site contamination perspective. The assessment included:

- Desktop Phase 1 SCA to assess the historical land use, the potential for contamination resulting from past land use and a general appraisal of the type and location of potential contamination on the site;
- Based on the above and a site walkover, areas of environmental concern and contaminants of concern were identified and preliminary soil sampling and laboratory analysis for a broad suite of common contaminants associated with the assessed site usage was undertaken.

The work was undertaken in general accordance with proposal number RGS31785.1 - AA dated 25 February 2019.

2 METHODOLOGY

The site contamination assessment was undertaken in accordance with the relevant sections of the NSW EPA, *Guidelines for Consultants Reporting on Contaminated Sites,* and involved the following process:

- Desk top study (to assess the historical land use, the potential for contamination resulting from past land use. The study included:
    - Review of local geology;
    - Review of government records of groundwater bores in the area;
    - Review of available recent and historical aerial photography for the last 50 years;
    - Land title search of the respective lots available from the Land Titles Office;
    - Search of Environmental Protection Authority (EPA) website for any contamination notices for the site;
    - SafeWork 'Site Search for Schedule 11 Hazardous Chemicals on Premises';
- Site walkover to assess visible surface conditions and identify potential evidence of contamination, or past activities that may cause contamination; and
- Collection of soil samples in areas of potential environmental concern.

Using the above information, the site was characterised into Areas of Environmental Concern (AEC), in which the potential for contamination has been identified, and nominate Chemicals of Concern that might be associated with those activities.

Samples were collected from the boreholes and from surface soils in areas with the potential of contamination. The samples collected were analysed for a suite of potential contaminants.

The results of the laboratory analysis were evaluated against the health based investigation levels for a commercial / industrial development as outlined in National Environmental Protection (Assessment of Site Contamination) Measure 2013 (NEPM) guidelines.

3 SITE CONDITIONS

3.1 Surface Conditions

The site is made up of three lots and is situated in Coffs Harbour CBD area within flat alluvial terrain. An aerial photograph that illustrates the site location and site setting is reproduced below.

Site Location and site setting as illustrated by NSW Government 'Six Maps'. The extent of the three lots that make up the site is shown by a red box.

The majority of the three lots are occupied by buildings, concrete slabs, par parks, and garden beds surrounding the buildings. The building materials generally comprise of brick masonry and fibro clad (potential asbestos containing materials and lead based paints).

Most of the buildings appear to be run down, however, structurally they appear to be in fair condition. Extensive cracking was observed in the carpark in the centre lot.

The surrounding area consists residential and commercial buildings. There is a large fig tree approximately 5m to the northwest of the proposed development.

Typical site photographs are presented below in Plate 1.

Plate 1: Site Photographs Illustrating Site Conditions

Looking west at structures and grassed area in the northern end of the site.

Garden bed adjacent to fibro clad structure in the northern end of the site.

Looking west at the carkpark and structures in the middle section of the site.

Building and garden beds at southern end of the site.

Looking southeast at vegetated area between structures in the southern end of the site.

Large fig tree located to the north of the site.

3.2 Subsurface Conditions

The 1:100,000 Coffs Harbour Quaternary Geological Map indicates the site is underlain by a Pleistocene terrace comprising silt, clay, fluvial sand, and gravel. The 1:250,000 Dorrigo - Coffs Harbour Geology Map indicates that the alluvial materials are underlain by the Brooklana Formation which comprises siliceous argillite, slate and rare siliceous greywacke.

A summary of the subsurface profile encountered within the four boreholes (BH1 to BH4) drilled during the concurrent geotechnical site investigation undertaken by RGS (the results of which are summarised in Report No. RGS31785.1-AC) is presented below:

- BH1 in the eastern corner of the site encountered 0.2m of Clayey SILT fill, overlying stiff to hard alluvial Clayey SILT and Silty CLAY to 12m, overlying weathered argillite (i.e. bedrock) to at least 18.9m. Groundwater inflows were encountered at 6.5m depth;
- BH2 in the western corner of the site encountered 0.2m of pavement gravel, overlying topsoil to 0.4m, over very stiff to hard alluvial Silty CLAY to 9.5m, overlying weathered argillite to at least 17.8m. Groundwater inflows were encountered at 8m depth;
- BH3 in the southeast of the site encountered 0.25m of pavement gravel overlying Silty CLAY Fill to 1.6m, overlying alluvial Clayey SILT and Silty CLAY to 10.5m, overlying residual Silty CLAY that grades into weathered argillite from 16m. Groundwater inflows were encountered at 10m depth. The fill was likely placed to level this part of the site during previous development; and
- BH4 in the north of the site encountered 0.25m of topsoil overlying alluvial Clayey SILT and Silty CLAY to 9m, over weathered argillite to at least 17.4m. Groundwater inflows were encountered at 7m depth.

Borehole locations are shown on Figure 1.

4 DESKTOP REVIEW

4.1 Site History

A search of the NSW EPA website (http://www.epa.nsw.gov.au/prpoeoapp/) revealed that no notices have been issued on the site under the Contaminated Land Management Act (1997).

A land title search was undertaken by Advanced Legal Searches Pty Ltd. A summary of the search is presented in Table 1. The detailed results of the title search are presented in Appendix C.

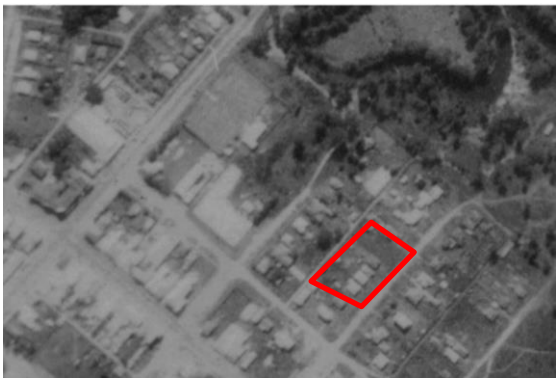
Table 1: Summary of Land Title Search

Lot / DP	Year	Owner / Occupation / Site usage
Lot 20 Section 6 DP 758258	1920 – 1926	George Bellingen Jarrett, grantee
	1926 – 1929	George Hedger Andrews, bank manager
	1929 – 1972	Elsie May Smith, wife of Irvine William Smith
	1972 – 1983	Marleen May Smith, spinster
	1983 – 1992	Inderjit Singh Harjeet Kaur Singh
	1992 – 2002	Inderjit Singh Harjeet Kaur Singh

Lot / DP	Year	Owner / Occupation / Site usage
	2002 – 2003	Francorp Pty Limited
	2003 – to date	Coffs Harbour City Council
Lot B DP 346105	1920 – 1926	George Bellingen Jarrett, grantee
	1926 – 1929	George Hedger Andrews, bank manager
	1929 – 1936	George Hedger Andrews, bank manager
	1936 – 1938	Mary Keevers, widow
	1938 – 1938	Walter Scott Smith, butter factory manager
	1938 – 1941	Hilda Mary Scott Smith, spinster
	1941 – 1953	Hilda Blanch May Smith, widow
	1953 – 1955	James Maze, engineer
	1955 – 1961	Stanley Ivan James, mechanic
	1961 – 1964	Reginald Eric Charles Maddox, garage proprietor Ailan Margaret Maddox, his wife
	1964 – 1983	Marie Minette Timms, wife of Lionel Edwin Hammond Timms, sawmiller
	1983 – 1985	Janice Faye Hefner
	1985 – 1984	Lockett and Montgomerie Pty. Limited
	1994 – 2004	The Salvation Army (New South Wales) Property Trust
	2004 – to date	Coffs Harbour City Council
Lot 123 DP 749233	1906 – 1930	Samuel Matten, farmer, grantee
	1930 – 1949	Horace William Matten, taxi driver Reuben Rodrick Matten, farmer Oswald Harold Matten, farmer
	1949 – 1966	Beatrice Daphne Reed, married woman
	1966 – 1971	Violet Gladys McCarthy, wife of Oswald Harold McCarthy
	1971 – 1972	William James Prisk, retired
	1972 – 1976	Peter Douglas Colless, surf board manufacturer
	1976 – 1978	Joseph William Gausepohl, fisherman
	1978 – 1980	Charles George Smith, company director Robert Victor Fletcher, agent
	1980 – 2004	The Salvation Army (New South Wales) Property Trust
	2004 – to date	Coffs Harbour City Council

Aerial photography of the site has been reviewed. Historical photographs have been sourced from the NSW Government Land and Property Information and from online sources including Google Earth. The purpose of this review was to assist in the identification of past land use activities that may contribute to site contamination. A summary of the observations is provided in Table 2.

Table 2: Summary of Aerial Photograph Observations

Photograph (Source)	Photograph Extract	Observations of Site Conditions	Observations of Surrounding Areas
1954 (NSW LPI)		Site appears to contain residential houses with a vacant black at the northern end.	As per site conditions.
1984 (NSW LPI)		Residential development of the site has occurred.	Residential developments upgrade of roads.
2004 (Google Earth)		Commercial and residential developments.	Commercial and residential developments.
2018 (Google Earth)		Similar to previous.	Similar to previous.

Based on the above, it can be concluded that the three lots have likely been used for residential or commercial purposes for their life span with the following potential exceptions:

- Lot 123 DP 749233 may have been used for farming between 1906 and 1949;
- Lot 123 DP 749233 may have been used for the manufacture of surf boards between 1972 and 1976; and
- Lot B DP 346105 may have been used as a mechanics workshop between 1955 and 1961.

4.2 Groundwater

A groundwater bore search on the NSW Department of Primary Industries Office of Water website (http://allwaterdata.water.nsw.gov.au/water.stm) indicates there are sixteen licensed bores located within 500m of the site. The closest bore is located approximately 150m south of the site. The drill records indicate that groundwater was encountered at 6.5m depth and a water bearing zone at 44m depth.

5 GUIDELINES & ASSESSMENT CRITERIA

5.1 Soil Investigation Levels

The assessment was carried out in accordance with the National Environment Protection (Assessment of Site Contamination) Measure (NEPM 2013). The NEPM document provides a range of guidelines for assessment of contaminants for various land uses. The development involves a commercial development. Therefore, the investigation levels for "commercial / industrial" land use have been adopted as the primary investigation criteria. In accordance with the NEPM guidelines the following criteria were adopted for this assessment:

- Health investigation levels (HIL) for commercial / industrial land use were used to assess the potential human health impact of heavy metals and polycyclic aromatic hydrocarbons (PAHs);
- Health Screening Levels (HSL) for coarse textured (sand) or fine textured (silt or clay) soils on a commercial / industrial site were adopted as appropriate for the soils encountered to assess the potential human health impact of petroleum hydrocarbons reported as total recoverable hydrocarbons (TRH) in four fraction ranges and benzene, toluene, ethylbenzene and xylene (BTEX) compounds;
- Ecological Investigation Levels (EIL) for commercial / industrial land use were used for evaluation of the potential ecological / environmental impact of heavy metals and PAH; and
- Ecological Screening Levels (ESL) for coarse textured (sand) or fine textured (silt or clay) soils on a commercial / industrial site were adopted as appropriate for the soils encountered, to assess the potential ecological / environmental impact of petroleum hydrocarbons and BTEX compounds.

In accordance with NEPM 2013, exceedance of the criteria does not necessarily deem that remediation or clean-up is required but is a trigger for further assessment of the extent of contamination and associated risks. The adopted criteria are presented in Table 3.

Table 3: Adopted Site Investigation Criteria

Analyte	Adopted Soil Investigation Criteria	Analyte	Adopted Soil Investigation Criteria
Benzene	3	Chlordane	530
Toluene	135(1)	Heptachlor	50
Ethyl-benzene	165(1)	Copper	240,000
Xylene	180(1)	Lead	1,500
TRH C6 – C10 (F1)	215(1)	Zinc	35,000
TRH C10 – C16 (F2)	170(1)	Cadmium	900
TRH C16 – C34 (F3)	1700(1)	Chromium (VI)	3600
TRH C34 – C40 (F4)	3300(1)	Arsenic	3,000
Carcinogenic PAHs (Benzo-a-pyrene toxic equivalent concentration)	40	Nickel	6,000
Phenol	240,000	Mercury	730
Dichlorodiphenyltrichloroethane and breakdown products (DDT+DDE+DDD)	3600	Asbestos	Not Present
Aldrin / Dieldrin	45		

Note: 1 Based on ecological screening levels (ESL)

5.2 Areas of Environmental Concern and Chemicals of Concern

Based on the desktop assessment and our site walkover, three Areas of Environmental Concern have been identified and are summarised in Table 4.

Table 4: Areas of Environmental Concern & Chemicals of Concern

Areas of Environmental Concern		Mode of Potential Contamination	Chemicals of Concern	Key Potential Receptors
AEC-1	Building materials, including potential asbestos containing linings (Fibro sheeting), lead based paints etc.	Building materials from construction of house and any renovations.	Asbestos, lead.	Future site users, construction workers, future subsurface maintenance workers. Flora and fauna within future landscaped areas.
AEC-2	Carpark areas.	Oil spills or fuel spills.	TPH, BTEX, PAH, Heavy metals.	
AEC-3	Soil surrounding existing or former wooden buildings and vegetation around vacant areas of property.	Herbicides and pesticides (including termiticides) used for general landscape upkeep and building preservation	Pesticides.	

5.3 Site Investigation & Laboratory Analysis

5.3.1 Investigations and Sampling

Field work was carried out in March 2019 and included:

- A site walkover assessment, observation and mapping of surface features and existing structures with aim of identifying areas of potential contamination concern; and
- Collection of soil samples from the identified AEC.

In consideration of the site conditions and assessed areas of environmental concern a sampling plan was prepared with the aim of targeting these areas of concern. Due to constraints pose by the existing structures sampling was limited to external areas only. Soil samples were collected from twelve locations across the 3,200m^2 site with sixteen primary samples (plus two duplicates) being submitted for laboratory testing. The approximate sample locations are shown on Figure 1.

Samples were collected in acid-rinsed 125mL glass jars and placed in an ice-chilled cooler while on site and during transit to the laboratory where the samples were refrigerated.

A summary of the soil sampling is presented in Table 5.

Table 5: Soil Sampling Summary

Sample Location	Depth (m)	Area of Environmental Concern	Sample Description
GS1	0 – 0.1	1,3	Topsoil
GS2	0 – 0.1	1,3	Topsoil
GS3	0 – 0.1	1,3	Topsoil
GS4	0 – 0.1	1,3	Fill
GS5	0 – 0.1	1,3	Fill
GS6	0 – 0.1	1,2,3	Fill
GS7	0 – 0.1	1,2,3	Topsoil
GS8	0 – 0.1	1,2,3	Topsoil
BH1	1.5 – 1.95	2	Alluvial Soil
BH2	0.05 – 0.15	2,3	Fill
BH2	0.2 – 0.4	2,3	Topsoil
BH2	0.4 – 0.5	2,3	Alluvial Soil
BH3	0.07 – 0.1	2,3	Fill
BH3	1.0 – 1.1	2	Fill
BH4	0.0 – 0.1	1,2,3	Topsoil
BH4	0.3 – 0.4	1,2,3	Alluvial Soil

5.3.2 Laboratory Analysis

Eleven soil samples were transported under chain-of-custody to ALS Laboratory Group, a NATA accredited specialist chemical testing laboratory. The samples included two duplicate soil samples and five composited samples. The samples were analysed for the following suite of contaminants;

- Asbestos
- Polycyclic Aromatic Hydrocarbons (PAH)
- Total Petroleum Hydrocarbons (TPH)
- Benzene, Toluene, Ethyl-benzene, Xylenes (BTEX)
- Organochlorine and Organophosphorus Pesticides (OCPs and OPPs)
- Heavy metals (arsenic, cadmium, chromium, cobalt, copper, lead, mercury, and zinc).

The results are presented in Appendix B.

5.3.3 Quality Control

Samples were obtained using industry accepted protocols for sample treatment, preservation, and equipment decontamination. Two duplicate samples were submitted to the laboratory for analysis. Comparison of the test results on the primary and duplicate sample generally show good correlation. The primary and corresponding duplicate sample are identified below:

- Primary BH3, duplicate D1.
- Primary GS5, duplicate D2.

In addition to the field QC 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, based on 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.

5.3.4 Soil Sampling

In consideration of the site conditions and assessed areas of environmental concern a sampling plan was prepared with the aim of targeting these areas of concern. Approximate sampling locations are shown on Figure 1. A summary of the soils present at the sampled locations is presented in Table 5.

5.3.5 Results of Analysis

An evaluation of the laboratory test results against the adopted soil assessment criteria as presented in Table 5 is provided below:

- No asbestos was detected in any of the samples tested;
- Results of heavy metal analysis revealed some elevated levels, the concentrations encountered were below the adopted health assessment criteria, however, some concentrations detected (notably zinc) may present a potential risk to some ecological receptors;
- Results of TRH (F1, F2, F3 and F4) analysis revealed concentrations either below the level of reporting or below the adopted assessment criteria in all samples;

- Results of BTEX analysis revealed concentrations below the level of reporting in all samples tested, and therefore below the adopted assessment criteria.
- Results of PAH analysis revealed concentrations below the level of reporting or below the adopted assessment criteria in all samples tested;
- Results of organochlorine and organophosphorus pesticide analysis revealed concentrations below the level of reporting or below the adopted assessment criteria in all samples tested; and
- Results of polychlorinated biphenyl (PCB) analysis recorded values below level of recording for all samples tested and therefore below the adopted assessment criteria.

6 ASSESSMENT & CONCLUSIONS REGARDING SITE CONTAMINATION

For all samples tested analysis found that heavy metals, TPH, BTEX, PAH, OC/OP pesticides, PCBs and the presence of asbestos were either at concentrations below the laboratory detection limits or at concentrations below the adopted health assessment criteria for commercial / industrial land use. Concentrations of heavy metals (notably zinc) in some soil samples may present a potential risk to some ecological receptors.

Based on the assessment undertaken the materials meet the requirements for a commercial/industrial site as detailed in the NEPM 2013 guidelines.

Based on the assessment as presented herein the site would be suitable for the proposed development.

The following recommendations are provided regarding the future development of the site.

- Undertake a hazardous materials survey prior to demolition of the existing structures at the site. An asbestos clearance certificate should also be obtained by the demolition contractor to certify that all asbestos has been appropriately removed from the site;
- Undertake further site assessment following the demolition of the buildings, floor slabs and pavements to assess possible contamination in these areas;
- Further evaluate potential risks to ecological receptors in relation to heavy metal concentrations in soils; and
- Assess the need for further work based on the conditions encountered following demolition.

7 LIMITATIONS

The findings presented in the report and used as the basis for recommendations presented herein were obtained using normal, industry accepted geotechnical 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. 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

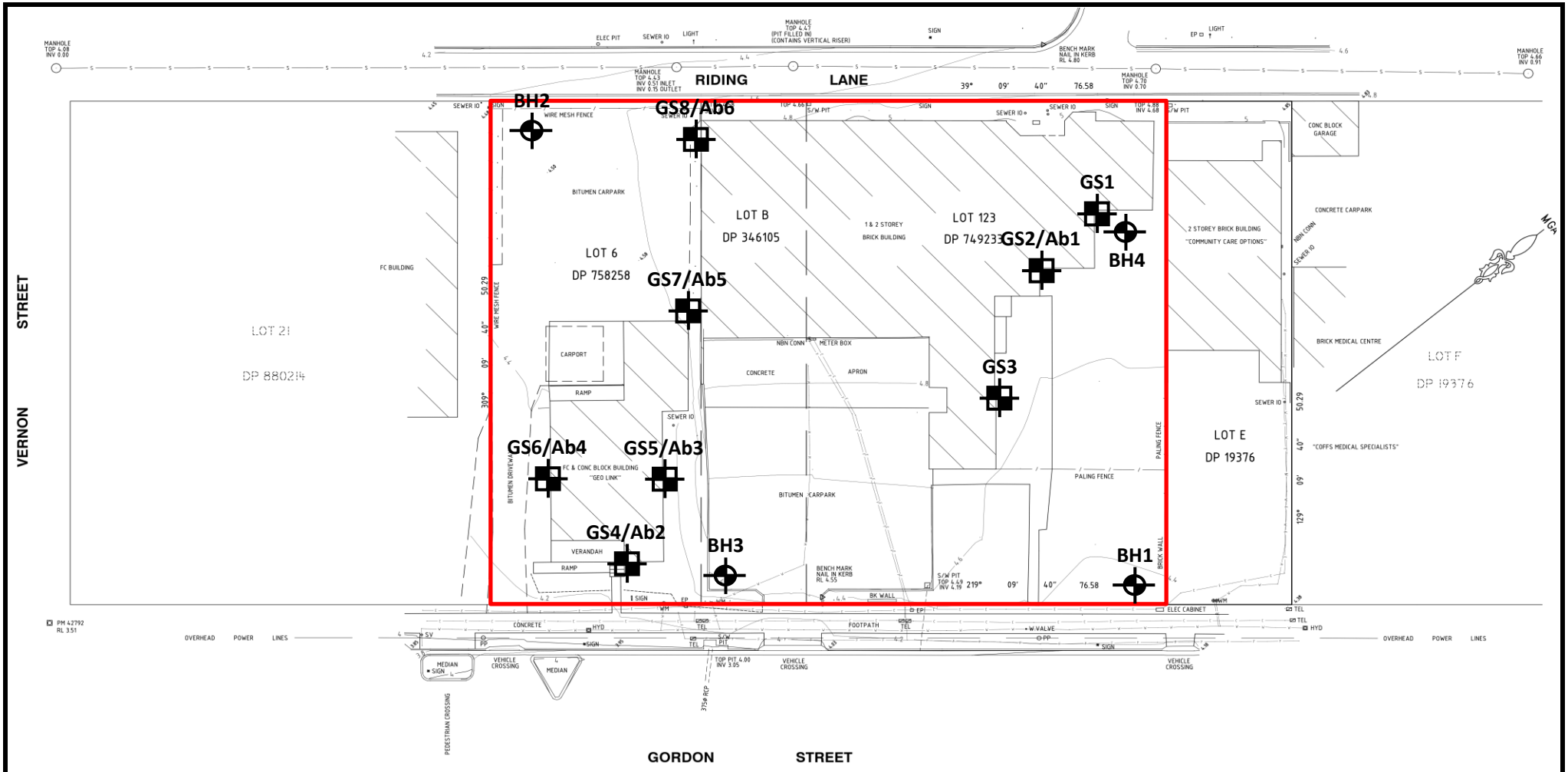
Senior Geotechnical Engineer

Reviewed by

Adam Holzhauser

Associate Geotechnical Engineer

Figures



Legend

- Borehole Location
- Surface Sample Location

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Coffs Harbour City Council	Job No. RGS31785.1
	Project:	Proposed Cultural & Civic Space Project	Drawn By: SK
			Scale: NTS
		23-31 Gordon Street, Coffs Harbour	Date: 11/04/2019
	Title:	Sample Location Plan	Drawing No. **Figure 1**

Appendix A

Results of Field Investigations

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

CLIENT:	Coffs Harbour City Council	**BOREHOLE NO:**	**BH1**
PROJECT NAME:	Proposed Cultural & Civic Space Project	**PAGE:**	1 of 3
SITE LOCATION:	22-31 Gordon Street, Coffs Harbour	**JOB NO:**	RGS31785.1
TEST LOCATION:	Refer to Figure 1	**LOGGED BY:**	AH
		DATE:	25/3/19

DRILL TYPE: Truck Mounted Drill Rig **EASTING:** **SURFACE RL:**

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

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		0.10m ES					0.20m **FILL:** Clayey SILT, low plasticity, dark brown with some fine to coarse grained Gravel and concrete fragments and rootlets	M ≈ W_P				GRASS
		0.50m SPT 7,7,8 N=15					0.30m **Clayey SILT:** Low plasticity, grey, brown	M ≈ W_P	St			ALLUVIAL
		0.95m		1.0			**Clayey SILT:** Low to medium plasticity, pale grey, mottled orange brown					
							1.20m **Silty CLAY:** Medium to high plasticity, pale grey mottled red brown	M > W_P	H			HP = >600kPa
				2.0								HP = >600kPa
		2.80m					2.80m					
		SPT 10,23,22 N=45		3.0			**Silty CLAY:** Medium to high plasticity, pale grey					HP = >600kPa
		3.25m										HP = >600kPa
				4.0								
		4.30m SPT 12,25,22 N=47										HP = >600kPa
		4.75m		5.0			Increase in moisture content		VSt			HP = >600kPa
		6.00m SPT 5,11,17 N=28		6.0						HP HP HP	320 350 380	
		6.45m										
		7.00m SPT 20,30/150 N=R		7.0			7.00m **Silty CLAY:** Medium plasticity, pale grey mottled red brown		H			
		7.30m										HP = >600kPa
				8.0			8.00m **Clayey SILT:** Low to medium plasticity, pale grey mottled red brown, with fine to medium grained ironstone Gravel bands		VSt			HP = >600kPa
		8.60m SPT 9,16,18 N=34		9.0						HP HP	350 320	
		9.05m					9.50m **Clayey SILT:** Low plasticity, pale grey with pale blue/green mottle		St			

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH1

CLIENT: Coffs Harbour City Council
PAGE: 2 of 3
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 25/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		10.30m SPT 6,6,8 N=14 10.75m		11.0			**Clayey SILT:** Low plasticity, pale grey with pale blue/green mottle *(continued)*	$M > w_P$	St	HP HP HP	150 110 110	ALLUVIAL
		12.00m SPT 7,14,25 N=39 12.45m		12.0 13.0		CL	12.00m **Clayey SILT:** Low plasticity, mottled grey, pale grey and orange brown	$M < w_P$	H / Fb	HP	420	RESIDUAL SOIL/EXTREMELY WEATHERED ARGILLITE RELIC ROCK STRUCTURE
		13.50m SPT 7,13,25 N=38 13.95m		14.0			14.75m					
		14.60m SPT 25/100 N=R		15.0 16.0 17.0 18.0 19.0			Continued as Cored Drill Hole					

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - CORED BOREHOLE

BOREHOLE NO: BH1

CLIENT: Coffs Harbour City Council
PAGE: Page 3 of 3
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 25/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling				Material description and profile information				Testing	Rock Mass Defects		
METHOD	WATER	RL (m)	DEPTH (m)	GRAPHIC LOG	Material Description: Rock type, particle characteristics, colour, minor components, structure	WEATHERING	ESTIMATED STRENGTH	$I_{s(50)}$D/A	RQD %	Defect Spacing mm	Defect Description: Type, inclination, planarity, roughness, coating, thickness
			11.0								
			12.0								
			13.0								
			14.0		START CORING AT 14.75m						
NMLC	100% LOSS		15.0		**ARGILLITE:** Fine grained, grey, mottled red brown, highly fractured to fragmented	EW - HW	VL				
					NO CORE 0.25m						
			16.0		**ARGILLITE:** Fine grained, grey, indistinctly bedded	HW - MW	L		0	50	JT, 30°, IR, RO, IS JT, 45°, IR, RO, IS JT, 60°, IR, RO, IS JT, 45°, IR, RO, IS JT, 30°, IR, RO, IS JT, 10°, IR, RO, IS JT, 35°, IR, RO, IS JT, 45°, IR, RO, IS JT, 35°, IR, RO, IS JT, 45°, IR, RO, IS Highly fractured to fragmented JT, 35°, 35°, IR, RO, IS Fragmented
					NO CORE 0.44m	EW SW	VL H				
			17.0		**ARGILLITE:** Fine grained, grey, indistinctly bedded				20	100	JT, 45°, IR, RO, IS JT, 60°, IR, RO, IS JT, 45°, IR, RO, IS JT, 35°, IR, RO, IS JT, 45°, IR, RO JT, 45°, IR, RO, IS JT, 85-90°, IR, RO, IS JT, 35°, IR, RO JT, 35°, IR, RO, IS JT, 25°, IR, RO, IS JT, 35°, IR, RO, IS JT, 45-60°, IR, RO, IS
			18.0								
			19.0		Hole Terminated at 18.90 m						

LEGEND:

Method

WB	Wash Bore
RR	Rock Roller
CB	Claw or Blad Bit
NMLC	NMLC Core
NQ,HQ,PQ	Wireline Coring

Bedding

Laminated	<20mm
Thinnly Bedded	20-200mm
Medium Bedded	200-600mm
Thickly Bedded	600-2000mm
Very Thickly Bedded	2000mm
Massive	No Visible Bedding

Degree of Fracturing

Fragmented	<20mm
Highly Fractured	20mm to 40mm
Fractured	40mm to 200mm
Slightly Fractured	200mm to 1000mm

Weathering

EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
FR	Fresh

Strength

		$I_{s(50)}$
VL	Very Low	<0.1
L	Low	0.1 - 0.3
M	Medium	0.3 - 1
H	High	1 - 3
VH	Very High	3 - 10
EH	Extremely High	>10

Defect Type

JT	Joint
PT	Parting
SM	Seam
SZ	Shear Zone
CS	Crushed Seam

Roughness

VR	Very Rough
RO	Rough
SO	Smooth
SL	Slickensided

Coating

CN	Clean
SN	Stained
VN	Veneer(<1mm)
CO	Coating(1-5mm)

Planarity

PL	Planar
CU	Curved
ST	Stepped
IR	Irregular

ENGINEERING LOG - BOREHOLE

REGIONAL GEOTECHNICAL SOLUTIONS

BOREHOLE NO: BH2
CLIENT: Coffs Harbour City Council
PAGE: 1 of 3
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: SK
TEST LOCATION: Refer to Figure 1
DATE: 26/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		0.05m 0.20m E 0.40m E 0.50m 1.00m B				GP ML CL	0.20m **FILL:** Sandy GRAVEL, fine to medium grained, grey, fine to medium grained Sand 0.40m **TOPSOIL:** Clayey SILT, low plasticity, dark brown **Silty CLAY:** Medium plasticity, pale brown, mottled orange	D M ~ w_P	VD VSt			2 COAT SEAL PAVEMENT GRAVEL TOPSOIL ALLUVIAL SOIL
		SPT 7,7,7 N=14 1.45m		1.0		CL	1.00m **Silty CLAY:** Medium plasticity, pale grey, mottled pale brown and orange to brown	M < w_P	VSt - H			
		2.50m SPT 9,10,11 N=21 2.95m		2.0 3.0		CL	1.50m **Silty CLAY:** Low to medium plasticity, pale grey with dark red and orange to brown staining along fissures	M < w_P	VSt - H			
		4.00m SPT 8,14,16 N=30 4.45m		4.0 5.0								SPT No sample recovery
		5.50m SPT 10,14,16 N=30 5.95m		6.0								
	26/03/2019 11:00:00 AM	7.00m SPT 13,14,25 N=39 7.45m		7.0 8.0			Fine to medium grained quartz Gravel band between 6.8 and 6.9m Zones of distinct dark rede and red to brown iron oxide staining along fissures and throughout the sill mass from about 7m					
		8.50m SPT 8,11,13 N=24 8.95m		9.0			9.50m **Silty CLAY:** Low plasticity, grey and pale brown with orange to brown staining along defects, relic fabric	M < w_P	H			EXTREMELY WEATHERED ARGILLITE
		10.00m										

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Moisture Condition

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

Density

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH2

CLIENT: Coffs Harbour City Council
PAGE: 2 of 3
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: SK
TEST LOCATION: Refer to Figure 1
DATE: 26/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		SPT 3,9,13 N=22 10.45m		11.0			**Silty CLAY:** Low plasticity, grey and pale brown with orange to brown staining along defects, relic fabric *(continued)*	$M < w_P$	H			EXTREMELY WEATHERED ARGILLITE
		11.50m SPT 10,21,23 N=44 11.95m		12.0								
		13.00m SPT 7,15,25/140mm N=R 13.44m		13.0			Traces of fine grained highly weathered argillite Gravel from about 13m					
		14.60m SPT 25/135mm M=R 14.74m		14.0			14.90m					
				15.0			Continued as Cored Drill Hole					
				16.0								
				17.0								
				18.0								
				19.0								

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - CORED BOREHOLE

BOREHOLE NO: BH2

CLIENT: Coffs Harbour City Council
PAGE: Page 3 of 3
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: SK
TEST LOCATION: Refer to Figure 1
DATE: 26/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling				Material description and profile information				Testing	Rock Mass Defects		
METHOD	WATER	RL (m)	DEPTH (m)	GRAPHIC LOG	Material Description: Rock type, particle characteristics, colour, minor components, structure	WEATHERING	ESTIMATED STRENGTH	$I_{s(50)}$D/A	RQD %	Defect Spacing mm	Defect Description: Type, inclination, planarity, roughness, coating, thickness
			11.0								
			12.0								
			13.0								
			14.0								
			15.0		START CORING AT 14.90m						
NMLC	0-5% LOSS				NO CORE 800mm				0		
			16.0		**ARGILLITE:** Dark grey, some calcite stained defects	SW - FR	H		70	250	JT, 45°, VR, CN JT, 35°, VR, IR, SN, (Fe)
			17.0						100	450 650	JT, 85°, VN, VR, SN, (Fe) JT, 10°, PL, RO, SN, (Fe) JT, 85°, PL, RO JT, 80°, PL, RO, CN
			18.0		Hole Terminated at 17.80 m						
			19.0								

LEGEND:

Method

WB	Wash Bore
RR	Rock Roller
CB	Claw or Blad Bit
NMLC	NMLC Core
NQ,HQ,PQ	Wireline Coring

Bedding

Laminated	<20mm
Thinnly Bedded	20-200mm
Medium Bedded	200-600mm
Thickly Bedded	600-2000mm
Very Thickly Bedded	2000mm
Massive	No Visible Bedding

Degree of Fracturing

Fragmented	<20mm
Highly Fractured	20mm to 40mm
Fractured	40mm to 200mm
Slightly Fractured	200mm to 1000mm

Weathering

EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
FR	Fresh

Strength

		$I_{s(50)}$
VL	Very Low	<0.1
L	Low	0.1 - 0.3
M	Medium	0.3 - 1
H	High	1 - 3
VH	Very High	3 - 10
EH	Extremely High	>10

Defect Type

JT	Joint
PT	Parting
SM	Seam
SZ	Shear Zone
CS	Crushed Seam

Roughness

VR	Very Rough
RO	Rough
SO	Smooth
SL	Slickensided

Coating

CN	Clean
SN	Stained
VN	Veneer(<1mm)
CO	Coating(1-5mm)

Planarity

PL	Planar
CU	Curved
ST	Stepped
IR	Irregular

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH3

CLIENT: Coffs Harbour City Council
PAGE: 1 of 2
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 27/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC							0.03m **ASPHALT:** 30mm thick	D				WEARING SURFACE
							0.25m **FILL:** Sandy GRAVEL fine to coarse grained, grey	M > w_P				PAVEMENT BASE
							FILL: Silty CLAY, medium plasticity, red brown with trace medium to coarse angular Gravel					FILL SUBGRADE
		1.00m SPT 5,5,6 N=11 1.45m		1.0						HP	250	
										HP	280	
							1.60m			HP	350	
				2.0		ML	**Clayey SILT:** Low to medium plasticity, orange, brown, mottled pale grey	M < w_P	VSt			ALLUVIAL
							2.40m					
						CL	**Silty CLAY:** Medium plasticity, pale grey with trace orange brown mottle		H			
		3.00m SPT 9,16,18 N=34 3.45m		3.0								HP = >600kPa
				4.0								HP = >600kPa
		4.50m DS 5.00m		5.0			5.00m					
						CL	**Silty CLAY:** Medium plasticity, pale grey with trace red brown mottle and trace fine to medium ironstone Gravel	M < w_P				
		6.00m SPT 10,15,16 N=31 6.45m		6.0						HP	420	
										HP	430	
				7.0			7.50m					
						ML	**Clayey SILT:** Low plasticity, pale grey					
				8.0					VSt / H			
		9.00m SPT 7,10,12 N=22 9.45m		9.0						HP	380	
										HP	420	

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH3

CLIENT: Coffs Harbour City Council
PAGE: 2 of 2
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 27/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC						ML	**Clayey SILT:** Low plasticity, pale grey *(continued)*	M < w_P	VSt / H			ALLUVIAL
							10.50m					
						CL	**Silty CLAY:** Medium plasticity, pale grey, mottled orange brown	M > w_P	St			RESIDUAL SOIL
				11.0								
		12.00m SPT 5,9,14 N=23 12.45m		12.0						HP	150	
										HP	200	
				13.0								
				14.0								
				15.0								
				16.0			16.00m					
							ARGILLITE: Fine grained, grey					EXTREMELY TO HIGHLY WEATHERED ARGILLITE VERY LOW STRENGTH
				17.0			17.40m					
							Hole Terminated at 17.40 m Auger Refusal					MODERATELY TO SLIGHTLY WEATHERED ARGILLITE MEDIUM STRENGTH
				18.0								
				19.0								

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH4

CLIENT: Coffs Harbour City Council
PAGE: 1 of 2
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 27/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		0.10m 0.30m ES 0.40m ES					0.25m **Sandy SILT:** Low plasticity, dark brown with rootlets	M				TOPSOIL: GRASS
						ML	**Clayey SILT:** Low plasticity, pale grey mottled orange brown	M > w_P	VSt			ALLUVIAL
		1.00m SPT 7,8,11 N=19 1.45m		1.0			1.00m			HP	320	
						CH	**Silty CLAY:** Medium to high plasticity, grey mottled red brown and orange brown			HP	330	
				2.0						HP	410	
									H			
		3.00m SPT 12,21,23 N=44 3.45m		3.0								
	27/03/2019 3:36:00 PM			4.0			4.00m					
						CL	**Silty CLAY:** Medium plasticity, grey with some pale brown and red mottling					
		4.50m SPT 10,11,5 N=16 4.95m		5.0						HP	420	
										HP	450	
				6.0								
				7.0								
		7.50m SPT 23,25,33/120 N=R 7.92m		8.0								
				9.0			9.00m					
						ML	**Clayey SILT:** Low plasticity, mottled grey, pale brown, white	M < w_P	VSt / Fb			RESIDUAL SOIL/EXTREMELY WEATHERED ARGILLITE RELIC ROCK STRUCTURE

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

REGIONAL GEOTECHNICAL SOLUTIONS

ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH4

CLIENT: Coffs Harbour City Council
PAGE: 2 of 2
PROJECT NAME: Proposed Cultural & Civic Space Project
JOB NO: RGS31785.1
SITE LOCATION: 22-31 Gordon Street, Coffs Harbour
LOGGED BY: AH
TEST LOCATION: Refer to Figure 1
DATE: 27/3/19

DRILL TYPE: Truck Mounted Drill Rig
EASTING:
SURFACE RL:
BOREHOLE DIAMETER: 100 mm
INCLINATION: 90°
NORTHING:
DATUM: AHD

Drilling and Sampling					Material description and profile information					Field Test		
METHOD	WATER	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics,colour,minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type	Result	Structure and additional observations
AD/TC		10.50m SPT 6,8,9 N=17 10.95m		11.0		ML	**Clayey SILT:** Low plasticity, mottled grey, pale brown, white *(continued)*	M < w_P	VSt / Fb			RESIDUAL SOIL/EXTREMELY WEATHERED ARGILLITE RELIC ROCK STRUCTURE
				12.0								
				13.0			13.00m					
		13.50m SPT 22,30/120 N=R 13.77m		14.0			**ARGILLITE:** Fine grained, pale brown with trace fine quartz Gravel					EXTREMELY TO HIGHLY WEATHERED ARGILLITE VERY LOW STRENGTH
				15.0								
				16.0								
				17.0			Becoming harder at 17.1m 17.40m					
				18.0			Hole Terminated at 17.40 m Auger Refusal					
				19.0								

LEGEND:

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

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

Notes, Samples and Tests

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

Field Tests

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

Consistency

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

Density

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

Moisture Condition

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

Appendix B

Laboratory Test Result Sheets

TABLE B1 - RESULTS OF CHEMICAL ANALYSES (concentrations in mg/kg) '**Commercial/Industrial' Site**.

Report No. **RGS31785.1-AB**

Location	DEPTH	Asebestos	TOTAL RECOVERABLE HYDROCARBONS					PAH		OC-OP PESTICIDE	BTEX	PCB	HEAVY METALS							
	(m)		C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40	Total	b-a-p				As	Cd	Cr*	Cu	Pb	Ni	Zn	Hg
AB1	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB2	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB3	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB4	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB5	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AB6	0 - 0.1	No	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D1 (BH3 Dupl.)	0 - 0.1	----	----	----	----	----	----	----	----	----	----	----	10	<1	8	10	17	3	22	<0.1
D2 (GS5 Dupl.)	0 - 0.1	----	----	----	----	----	----	----	----	----	----	----	<5	<1	3	32	230	<2	304	<0.1
GS1	0 - 0.1	----	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.1	12	<1	30	38	57	4	240	0.1
GS2	0 - 0.1	----	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.1	5	<1	10	21	21	5	63	<0.1
GS3	0 - 0.1	----	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.1	9	<1	10	27	93	4	301	<0.1
GS4	0 - 0.1	----	----	----	----	----	----	----	----	----	----	----	<5	<1	4	21	266	2	397	<0.1
GS5	0 - 0.1	----	<10	<50	120	<100	120	1.4	<0.5	<0.2	<0.2	<0.1	<5	<1	3	35	254	<2	378	<0.1
GS6	0 - 0.1	----	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.1	<5	<1	7	42	272	5	1120	<0.1
GS7	0 - 0.1	----	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.1	<5	<1	5	8	50	<2	107	<0.1
GS8	0 - 0.1	----	<10	<50	220	<100	220	<0.5	<0.5	<0.2	<0.2	<0.1	12	<1	23	34	13	6	330	<0.1
BH1	1.5-1.95	----	----	----	----	----	----	----	----	----	----	----	<5	<1	14	<5	9	<2	<5	<0.1
BH2	0.05-0.15	----	----	----	----	----	----	----	----	----	----	----	8	<1	6	15	17	10	95	<0.1
BH2	0.2-0.4	----	----	----	----	----	----	----	----	----	----	----	<5	<1	6	<5	19	<2	35	<0.1
BH2	0.4-0.5	----	----	----	----	----	----	----	----	----	----	----	<5	<1	8	<5	8	<2	8	<0.1
BH3	0.07-0.1	----	----	----	----	----	----	----	----	----	----	----	9	<1	4	9	15	4	37	0.1
BH3	1-1.45	----	----	----	----	----	----	----	----	----	----	----	11	<1	15	10	16	2	6	<0.1
BH4	0-0.1	----	----	----	----	----	----	----	----	----	----	----	6	<1	6	8	30	2	71	<0.1
BH4	0.3-0.4	----	----	----	----	----	----	----	----	----	----	----	<5	<1	4	<5	7	<2	<5	<0.1
Health Based Soil investigation Level			1000	800				4000	40	45	3	7	3000	900	3600	240000	1500	6000	400000	730
Ecological Investigation Level (EIL):																				
Ecological Screening Level (ESL):			215	170	1700	3300			0.7		75		**Coarse grained soil in mg/kg**							
			215	170	2500	6600			0.7		95		**Fine grained soil in mg/kg**							

NOTES:

Denotes concentration exceeds health based guideline for Industrial/Commercial land use

Denotes concentration exceeds ecological guideline for Industrial/ Commercial land use

Denotes concentration exceeds health and ecological based guideline for Industrial/ Commercial land use

NL No Limit available

LOR Limit of Reporting

TRH health based guidelines for upper 1m of soil

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1909963**	Page	: 1 of 18
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: MR ADAM HOLZHAUSER	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS31785.1 COFFS HARBOUR CULTURAL AND CIVIL CENTRE	Date Samples Received	: 01-Apr-2019 09:30
Order number	: ----	Date Analysis Commenced	: 02-Apr-2019
C-O-C number	: ----	Issue Date	: 05-Apr-2019 16:37
Sampler	: ----		
Site	: GORDON STREET COFFS HARBOUR		
Quote number	: EN/222		
No. of samples received	: 25		
No. of samples analysed	: 24		

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. 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*
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Raymond Commodore	Instrument Chemist	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero
- EP068: Positive results have been confirmed by re-re extraction and re-analysis.
- 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: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- 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)				Client sample ID	AB1	AB2	AB3	AB4	AB5
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-001	ES1909963-002	ES1909963-003	ES1909963-004	ES1909963-005
					Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres		**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--		**-**	**-**	**-**	**-**	**-**
Sample weight (dry)	----	0.01	g		**139**	**175**	**172**	**185**	**156**
APPROVED IDENTIFIER:	----	-	--		**C.OWLER**	**C.OWLER**	**C.OWLER**	**C.OWLER**	**C.OWLER**
Synthetic Mineral Fibre	----	0.1	g/kg		**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg		**No**	**No**	**No**	**No**	**No**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AB6	D1	D2	GS1	GS2
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	ES1909963-006	ES1909963-007	ES1909963-008	ES1909963-009	ES1909963-010
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	13.5	25.0	21.4	7.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	101	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	C.OWLER	----	----	----	----
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	----	10	<5	12	5
Barium	7440-39-3	10	mg/kg	----	20	100	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	----	----
Boron	7440-42-8	50	mg/kg	----	<50	<50	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	8	3	30	10
Cobalt	7440-48-4	2	mg/kg	----	<2	<2	----	----
Copper	7440-50-8	5	mg/kg	----	10	32	38	21
Lead	7439-92-1	5	mg/kg	----	17	230	57	21
Manganese	7439-96-5	5	mg/kg	----	130	52	----	----
Nickel	7440-02-0	2	mg/kg	----	3	<2	4	5
Selenium	7782-49-2	5	mg/kg	----	<5	<5	----	----
Vanadium	7440-62-2	5	mg/kg	----	19	<5	----	----
Zinc	7440-66-6	5	mg/kg	----	22	304	240	63
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	<0.1
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	AB6	D1	D2	GS1	GS2
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-006	ES1909963-007	ES1909963-008	ES1909963-009	ES1909963-010
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
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
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	AB6	D1	D2	GS1	GS2
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	ES1909963-006	ES1909963-007	ES1909963-008	ES1909963-009	ES1909963-010
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
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								
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								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	AB6	D1	D2	GS1	GS2
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-006	ES1909963-007	ES1909963-008	ES1909963-009	ES1909963-010
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	----	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		----	----	----	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		----	----	----	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		----	----	----	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		----	----	----	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		----	----	----	<50	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		----	----	----	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	----	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	----	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		----	----	----	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		----	----	----	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	**80.1**	**116**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	----	----	**101**	**64.6**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	----	----	**110**	**65.0**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	**83.5**	**79.8**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	**87.8**	**84.7**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	**72.5**	**69.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	**95.4**	**92.8**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	**84.8**	**83.8**
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	**79.4**	**80.2**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	----	**78.4**	**75.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	AB6	D1	D2	GS1	GS2
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-006	ES1909963-007	ES1909963-008	ES1909963-009	ES1909963-010
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
Toluene-D8	2037-26-5	0.2	%		----	----	----	**99.4**	**95.8**
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	----	**114**	**109**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GS3	GS4	GS5	GS6	GS7
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	ES1909963-011	ES1909963-012	ES1909963-013	ES1909963-014	ES1909963-015
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.0	9.7	25.7	27.6	11.1
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	----	110	----	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Boron	7440-42-8	50	mg/kg	----	<50	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	10	4	3	7	5
Cobalt	7440-48-4	2	mg/kg	----	<2	----	----	----
Copper	7440-50-8	5	mg/kg	27	21	35	42	8
Lead	7439-92-1	5	mg/kg	93	266	254	272	50
Manganese	7439-96-5	5	mg/kg	----	121	----	----	----
Nickel	7440-02-0	2	mg/kg	4	2	<2	5	<2
Selenium	7782-49-2	5	mg/kg	----	<5	----	----	----
Vanadium	7440-62-2	5	mg/kg	----	6	----	----	----
Zinc	7440-66-6	5	mg/kg	301	397	378	1120	107
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
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	0.09	0.09	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GS3	GS4	GS5	GS6	GS7
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-011	ES1909963-012	ES1909963-013	ES1909963-014	ES1909963-015
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	**0.09**	**0.09**	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GS3	GS4	GS5	GS6	GS7
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-011	ES1909963-012	ES1909963-013	ES1909963-014	ES1909963-015
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	**0.7**	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	**0.7**	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	**1.4**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	**120**	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	**120**	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GS3	GS4	GS5	GS6	GS7
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-011	ES1909963-012	ES1909963-013	ES1909963-014	ES1909963-015
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**121**	----	**109**	**105**	**109**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**83.0**	----	**92.0**	**87.2**	**137**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**82.1**	----	**79.4**	**82.0**	**80.6**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**81.5**	----	**79.5**	**82.4**	**78.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.1**	----	**82.2**	**86.1**	**82.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		**71.9**	----	**74.3**	**75.2**	**70.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.3**	----	**90.0**	**94.0**	**90.1**
Anthracene-d10	1719-06-8	0.5	%		**83.3**	----	**82.2**	**84.4**	**80.4**
4-Terphenyl-d14	1718-51-0	0.5	%		**78.7**	----	**76.8**	**78.6**	**76.1**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**74.8**	----	**73.2**	**73.8**	**79.3**
Toluene-D8	2037-26-5	0.2	%		**90.3**	----	**94.6**	**87.5**	**94.4**
4-Bromofluorobenzene	460-00-4	0.2	%		**102**	----	**104**	**97.8**	**110**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GS8	BH1 1.5-1.95	2BH2 0.05-0.15	BH2 0.2-0.4	BH2 0.4-0.5
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	ES1909963-016	ES1909963-017	ES1909963-018	ES1909963-019	ES1909963-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	23.8	19.3	4.3	18.1	17.6
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	<5	8	<5	<5
Barium	7440-39-3	10	mg/kg	----	20	60	20	20
Beryllium	7440-41-7	1	mg/kg	----	<1	<1	<1	<1
Boron	7440-42-8	50	mg/kg	----	<50	<50	<50	<50
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	23	14	6	6	8
Cobalt	7440-48-4	2	mg/kg	----	<2	9	<2	<2
Copper	7440-50-8	5	mg/kg	34	<5	15	<5	<5
Lead	7439-92-1	5	mg/kg	13	9	17	19	8
Manganese	7439-96-5	5	mg/kg	----	<5	446	30	12
Nickel	7440-02-0	2	mg/kg	6	<2	10	<2	<2
Selenium	7782-49-2	5	mg/kg	----	<5	<5	<5	<5
Vanadium	7440-62-2	5	mg/kg	----	38	13	18	22
Zinc	7440-66-6	5	mg/kg	330	<5	95	35	8
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	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GS8	BH1 1.5-1.95	2BH2 0.05-0.15	BH2 0.2-0.4	BH2 0.4-0.5
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	ES1909963-016	ES1909963-017	ES1909963-018	ES1909963-019	ES1909963-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GS8	BH1 1.5-1.95	2BH2 0.05-0.15	BH2 0.2-0.4	BH2 0.4-0.5
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-016	ES1909963-017	ES1909963-018	ES1909963-019	ES1909963-020
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		**160**	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**160**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		**220**	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**220**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GS8	BH1 1.5-1.95	2BH2 0.05-0.15	BH2 0.2-0.4	BH2 0.4-0.5
				Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00
Compound	CAS Number	LOR	Unit		ES1909963-016	ES1909963-017	ES1909963-018	ES1909963-019	ES1909963-020
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**110**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**132**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**83.4**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.8**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**81.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**70.7**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**88.2**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**77.6**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**72.2**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**87.6**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**116**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**128**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH3 0.07-0.1	BH3 1-1.45	BH4 0-0.1	BH4 0.3-0.4	----
			Client sampling date / time	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	28-Mar-2019 00:00	----
Compound	CAS Number	LOR	Unit	ES1909963-021	ES1909963-022	ES1909963-023	ES1909963-024	--------
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	2.7	20.4	20.6	13.7	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	11	6	<5	----
Barium	7440-39-3	10	mg/kg	20	30	30	20	----
Beryllium	7440-41-7	1	mg/kg	<1	<1	<1	<1	----
Boron	7440-42-8	50	mg/kg	<50	<50	<50	<50	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	4	15	6	4	----
Cobalt	7440-48-4	2	mg/kg	3	<2	2	<2	----
Copper	7440-50-8	5	mg/kg	9	10	8	<5	----
Lead	7439-92-1	5	mg/kg	15	16	30	7	----
Manganese	7439-96-5	5	mg/kg	260	58	237	17	----
Nickel	7440-02-0	2	mg/kg	4	2	2	<2	----
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	<5	----
Vanadium	7440-62-2	5	mg/kg	8	37	9	14	----
Zinc	7440-66-6	5	mg/kg	37	6	71	<5	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	<0.1	<0.1	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	AB1 - 28-Mar-2019 00:00	Mid brown soil.
EA200: Description	AB2 - 28-Mar-2019 00:00	Mid brown soil.
EA200: Description	AB3 - 28-Mar-2019 00:00	Mid brown soil.
EA200: Description	AB4 - 28-Mar-2019 00:00	Mid brown soil.
EA200: Description	AB5 - 28-Mar-2019 00:00	Mid brown soil.
EA200: Description	AB6 - 28-Mar-2019 00:00	Mid brown soil.

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) 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

Appendix C

Results of Site History Study

NSW GOVERNMENT | SafeWork NSW

Locked Bag 2906, Lisarow NSW 2252
Customer Experience 13 10 50
ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D19/097023

28 March 2019

Regional Geotechnical Solutions
Mr Adam Holzhauser
Unit 14
25-27 Hurley Drive
COFFS HARBOUR NSW 2450

Dear Mr Holzhauser

RE SITE: 23-31 Gordon St, Coffs Harbour NSW 2450

I refer to your site search request received by SafeWork NSW on 22 March 2019 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

SAFEWORK NSW
92 DONNISON STREET
GOSFORD NSW 2250

22/03/19 7:52
000030W7620 0001
ROBYN

EFTPC
SAFEL
92 TC
GOSFC
Austr

OTHER% $305.50
OTHER $1.22
INV TTL $306.72
GST $27.77

TIME
MID
TSP
RRN
Visa
CARD.
AUTH

CR CARD
$306.72

MOTO

% indicates taxable
TAX INVOICE
81 913 830 179

ADVANCE LEGAL SEARCHERS PTY LIMITED

(ACN 147 943 842)
ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

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

20th March 2019

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

Attention: Louis Davidson

RE: **23 – 31 Gordon Street,**
Coffs Harbour
RGS31785.1

Note 1:

Current Search

Folio Identifier 20/6/758258 (title attached)
Crown Plan 1-2775 (plan attached)
Dated 19th March 2019
Registered Proprietor:
COFFS HARBOUR CITY COUNCIL

Title Tree
Lot 20 Section 6 DP 758258

Folio Identifier 20/6/758258

Certificate of Title Volume 4319 Folio 156

Certificate of Title Volume 3006 Folio 58

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Summary of proprietor(s)
Lot 20 Section 6 DP 758258

Year	Proprietor(s)
	(Lot 20 Section 6 DP 758258)
2003 – todate	Coffs Harbour City Council
(2010 – todate)	*(current lease to Geolink Consulting Pty Limited shown on Folio Identifier 20/6/758258)*
2002 – 2003	Francorp Pty Limited
1992 – 2002	Inderjit Singh Harjeet Kaur Singh
(1992 – todate)	*(various leases shown on Historical Folio 20/6/758258)*
	(Allotment 20 Section 6 Town Coffs Harbour – Area 1 Rood – CTVol 4319 Fol 156)
1983 – 1992	Inderjit Singh Harjeet Kaur Singh
1972 – 1983	Marleen May Smith, spinster
1929 – 1972	Elsie May Smith, wife of Irvine William Smith
	(Allotments 10, 19 & 20 Section 6 Town Coffs Harbour – Area 3 Roods – CTVol 3006 Fol 58)
1926 – 1929	George Hedger Andrews, bank manager
1920 – 1926	George Bellingen Jarrett, grantee

****

Note 2:

Current Search

Folio Identifier B/346105 (title attached)
DP 346105 (plan attached)
Dated 19th March 2019
Registered Proprietor:
COFFS HARBOUR CITY COUNCIL

Title Tree
Lot B DP 346105

Folio Identifier B/346105

Certificate of Title Volume 15514 Folio 55

Certificate of Title Volume 6704 Folio 102

Certificate of Title Volume 4273 Folio 247

Certificate of Title Volume 3006 Folio 58

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Summary of proprietor(s)
Lot B DP 346105

Year	Proprietor(s)
	(Lot B DP 346105)
2004 – todate	Coffs Harbour City Council
1994 – 2004	The Salvation Army (New South Wales) Property Trust
1989 – 1994	Lockett and Montgomerie Pty. Limited
	(Lot B DP 346105 – CTVol 15514 Fol 55)
1987 – 1989	Lockett and Montgomerie Pty. Limited
	(Lot B DP 346105 – Area 20 Perches – CTVol 6704 Fol 102)
1985 – 1987	Lockett and Montgomerie Pty. Limited
1983 – 1985	Janice Faye Hefner
1964 – 1983	Marie Minette Timms, wife of Lionel Edwin Hammond Timms, sawmiller
1961 – 1964	Reginald Eric Charles Maddox, garage proprietor Ailan Margaret Maddox, his wife
1955 – 1961	Stanley Ivan James, mechanic
1953 – 1955	James Maze, engineer
	(Allotment 19 Section 6 Town Coffs Harbour – Area 1 Rood – CTVol 4273 Fol 247)
1941 – 1953	Hilda Blanch May Smith, widow
1938 – 1941	Hilda Mary Scott Smith, spinster
1938 – 1938	Walter Scott Smith, butter factory manager
1936 – 1938	Mary Keevers, widow
1929 – 1936	George Hedger Andrews, bank manager
	(Allotments 10, 19 & 20 Section 6 Town Coffs Harbour – Area 3 Roods – CTVol 3006 Fol 58)
1926 – 1929	George Hedger Andrews, bank manager
1920 – 1926	George Bellingen Jarrett, grantee

****

Note 3:

Current Search

Folio Identifier 123/749233 (title attached)
DP 749233 (plan attached)
Dated 19th March 2019
Registered Proprietor:
COFFS HARBOUR CITY COUNCIL

Title Tree
Lot 123 DP 749233

Folio Identifier 123/749233

(a)

Certificate of Title Volume 7164 Folio 157

Certificate of Title Volume 4273 Folio 247

Certificate of Title Volume 3006 Folio 58

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(b)

Certificate of Title Volume 6421 Folio 72

(c)

Certificate of Title Volume 6081 Folio 157

Certificate of Title Volume 5239 Folio 66

Certificate of Title Volume 1741 Folio 204

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Summary of proprietor(s)

Lot 123 DP 749233

Year **Proprietor(s)**

	(Lot 123 DP 749233)
2004 – todate	Coffs Harbour City Council
1987 – 2004	The Salvation Army (New South Wales) Property Trust

See Notes (a), (b) & (c)

Note (a)

	(Lot A DP 346105 – Area 20 Perches – CTVol 7164 Fol 157)
1983 – 1987	The Salvation Army (New South Wales) Property Trust
1983 – 1983	Thelma Kingston, widow
1978 – 1983	Ronald Joseph Kingston, retired Thelma Kingston, his wife
1970 – 1978	Bruce Williams, sales representative Lorelle Kingston, hairdresser
1960 – 1970	Howard Edmond Herden, salesman Pearl Francis Ross Herden, his wife
1959 – 1960	Howard Edmond Herden, salesman Pearl Francis Herden, his wife
1956 – 1959	Stanley Ivan James, motor mechanic
	(Allotment 19 Section 6 Town Coffs Harbour – Area 1 Rood – CTVol 4273 Fol 247)
1941 – 1956	Hilda Blanch May Smith, widow
1938 – 1941	Hilda Mary Scott Smith, spinster
1938 – 1938	Walter Scott Smith, butter factory manager
1936 – 1938	Mary Keevers, widow
1929 – 1936	George Hedger Andrews, bank manager
	(Allotments 10, 19 & 20 Section 6 Town Coffs Harbour – Area 3 Roods – CTVol 3006 Fol 58)
1926 – 1929	George Hedger Andrews, bank manager
1920 – 1926	George Bellingen Jarrett, grantee

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Note (b)

	(Lot C DP 19376 – Area 24 ½ Perches – CTVol 6421 Fol 72)
1980 – 1987	The Salvation Army (New South Wales) Property Trust
1978 – 1980	Charles George Smith, company director Robert Victor Fletcher, agent
1976 – 1978	Joseph William Gausepohl, fisherman
1972 – 1976	Peter Douglas Colless, surf board manufacturer
1971 – 1972	William James Prisk, retired
1966 – 1971	Violet Gladys McCarthy, wife of Oswald Harold McCarthy
1951 – 1966	Beatrice Daphne Reed, married woman
	(Lots C, D, E & F DP 19376 – Area 2 Roods 16 Perches – CTVol 5239 Fol 66)
1949 – 1951	Beatrice Daphne Reed, married woman
1941 – 1949	Horace William Matten, taxi driver Reuben Rodrick Matten, farmer Oswald Harold Matten, farmer
	(Allotments 16, 17 & 18 Section 6 Town Coffs Harbour – Area 3 Roods – CTVol 1741 Fol 204)
1930 – 1941	Horace William Matten, taxi driver Reuben Rodrick Matten, farmer Oswald Harold Matten, farmer
1906 – 1930	Samuel Matten, farmer, grantee

****

Note (c)

	(Lot D DP 19376 – Area 23 ¾ Perches – CTVol 6081 Fol 157)
1952 – 1987	The Salvation Army (New South Wales) Property Trust
1950 – 1952	Lorna May Killmore, married woman
1950 – 1950	Erle Samuel George Brewis, farmer
	(Lots C, D, E & F DP 19376 – Area 2 Roods 16 Perches – CTVol 5239 Fol 66)
1949 – 1950	Beatrice Daphne Reed, married woman
1941 – 1949	Horace William Matten, taxi driver Reuben Rodrick Matten, farmer Oswald Harold Matten, farmer
	(Allotments 16, 17 & 18 Section 6 Town Coffs Harbour – Area 3 Roods – CTVol 1741 Fol 204)
1930 – 1941	Horace William Matten, taxi driver Reuben Rodrick Matten, farmer Oswald Harold Matten, farmer
1906 – 1930	Samuel Matten, farmer, grantee

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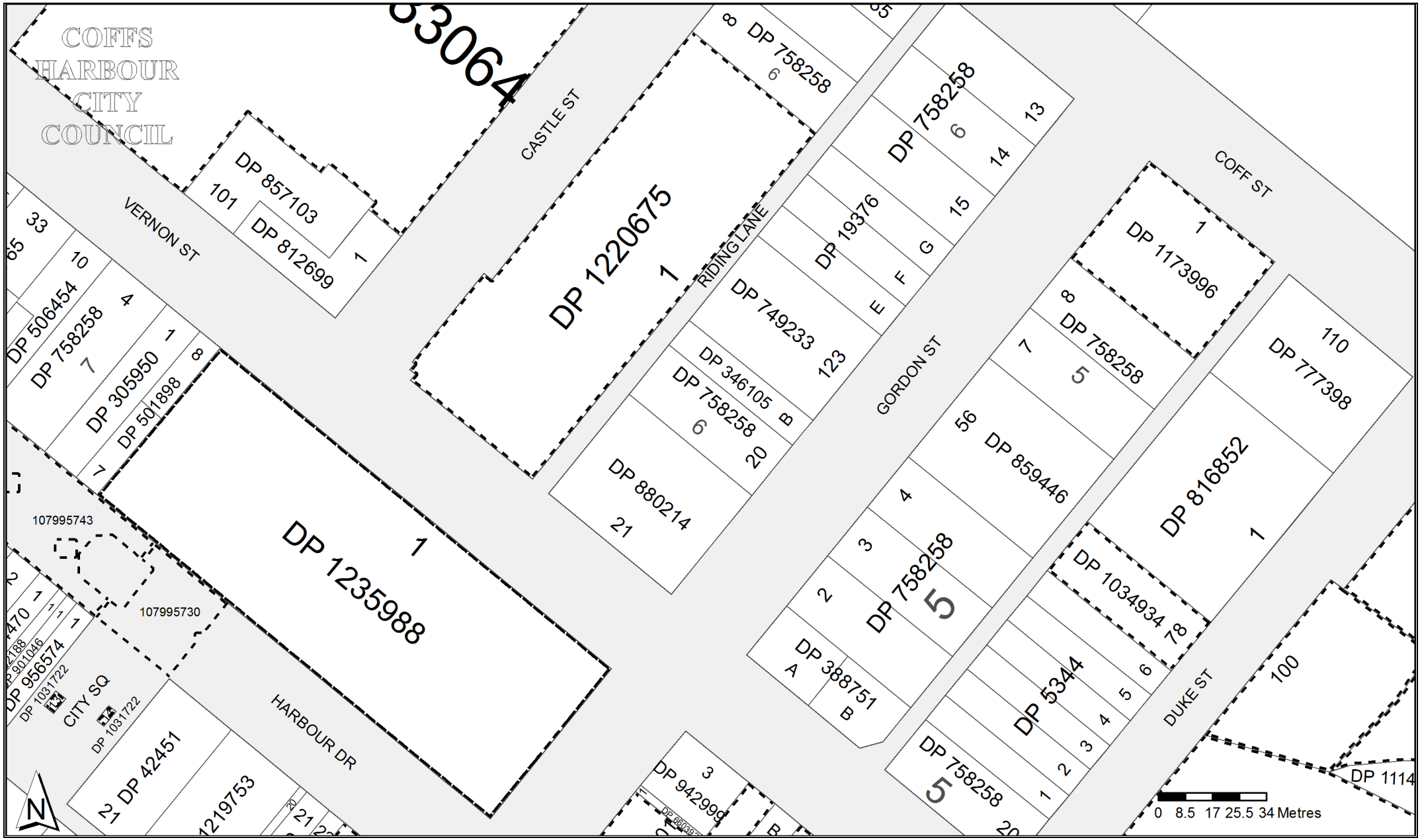
Cadastral Records Enquiry Report : Lot 20 Section 6 DP 758258

Ref : NOUSER

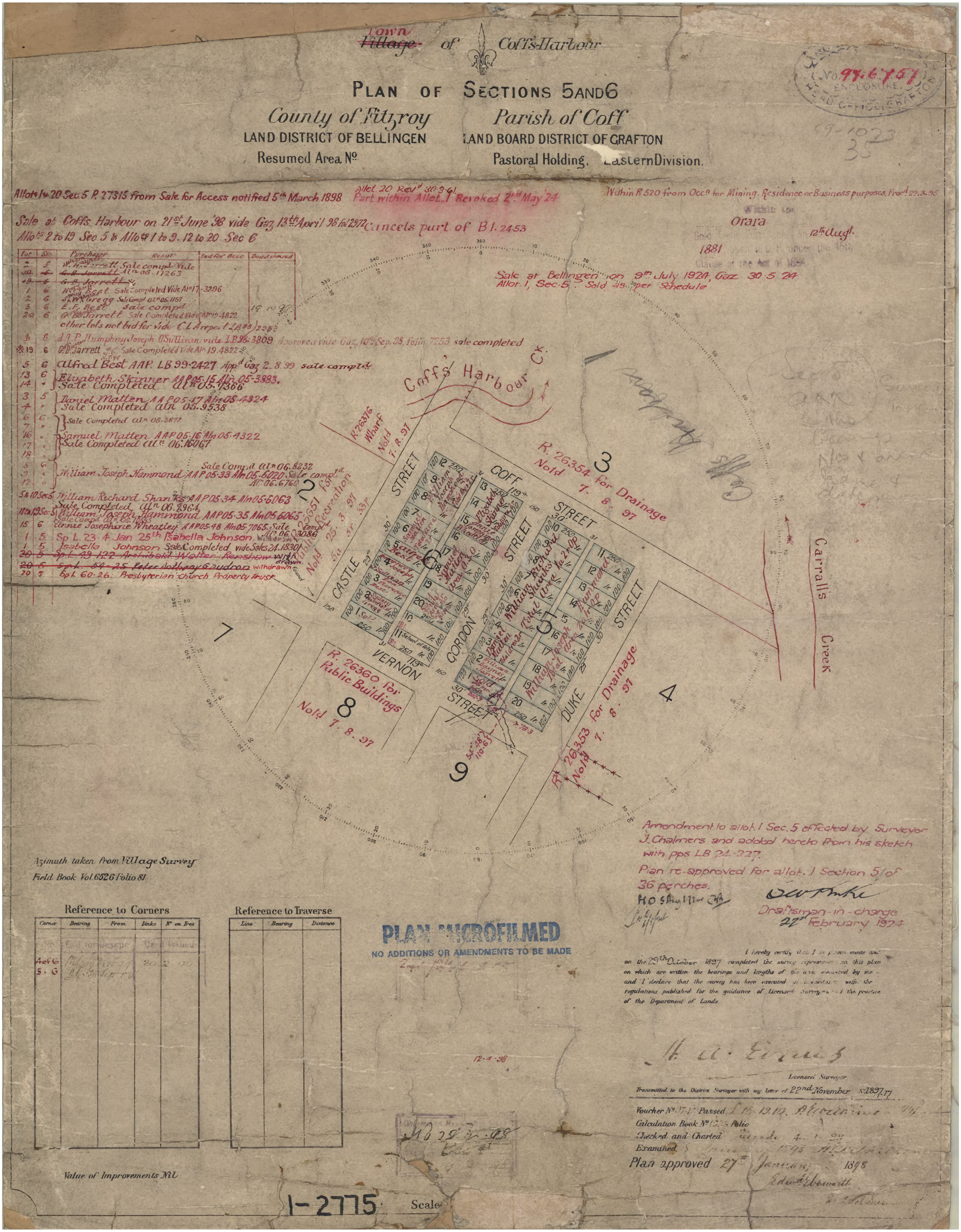
Locality : COFFS HARBOUR
Parish : COFF
LGA : COFFS HARBOUR
County : FITZROY



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
DP1031722			
Lot(s): 13, 14			
NSW GAZ. 25-01-2002 Folio : 435 CLOSED ROAD LOTS 13-14 DP1031722			
DP1034934			
Lot(s): 78			
DP5344	HISTORICAL	COMPILATION	UNRESEARCHED
DP1052469			
Lot(s): 100, 101			
DP562513	HISTORICAL	SURVEY	SUBDIVISION
DP1057401			
Lot(s): 1			
DP942999	HISTORICAL	SURVEY	UNRESEARCHED
DP1058414			
Lot(s): 102			
DP728228	HISTORICAL	SURVEY	CROWN FOLIO CREATION
DP1133064			
Lot(s): 1			
DP809575	HISTORICAL	SURVEY	UNRESEARCHED
DP857103	HISTORICAL	SURVEY	SUBDIVISION
DP1173996			
Lot(s): 1			
DP758258	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1188198			
Lot(s): 10			
DP758258	HISTORICAL	COMPILATION	CROWN ADMIN NO.
DP1220675			
Lot(s): 1			
DP1204362	HISTORICAL	SURVEY	CONSOLIDATION
DP1218390	HISTORICAL	SURVEY	ROADS ACT, 1993
NSW GAZ. 29-04-2016 Folio : 992 CLOSED ROAD LOT 1 DP1218390			
DP1235988			
Lot(s): 1			
DP421199	HISTORICAL	SURVEY	UNRESEARCHED
DP721353	HISTORICAL	COMPILATION	CROWN FOLIO CREATION
DP796866	HISTORICAL	COMPILATION	DEPARTMENTAL
NSW GAZ. 20-09-2002 Folio : 8354 RENAMED "CITY SQUARE"			
SP52228			
SP69266	REGISTERED	COMPILATION	STRATA SUBDIVISION PLAN
SP63891			
DP332845	HISTORICAL	COMPILATION	UNRESEARCHED
Road			
Polygon Id(s): 107995730, 107995743			
DP1181657	REGISTERED	SURVEY	SUBDIVISION
CA168441 - LOT 15 DP1181657			
Polygon Id(s): 105567556, 105652957, 107995742			
DP1248186	REGISTERED	SURVEY	SUBDIVISION
Polygon Id(s): 105567556, 105612906, 105652957, 105659840, 107995742			
CA176414 - LOT 100 DP1248186			

Plan	Surv/Comp	Purpose
DP5344	COMPILATION	UNRESEARCHED
DP19376	SURVEY	UNRESEARCHED
DP42451	COMPILATION	CROWN FOLIO CREATION
DP43845	COMPILATION	CROWN FOLIO CREATION
DP305950	COMPILATION	UNRESEARCHED
DP332845	COMPILATION	UNRESEARCHED
DP346105	SURVEY	UNRESEARCHED
DP388751	COMPILATION	UNRESEARCHED
DP501898	SURVEY	SUBDIVISION
DP506454	SURVEY	SUBDIVISION
DP510481	SURVEY	SUBDIVISION
DP566885	SURVEY	SUBDIVISION
DP589480	SURVEY	SUBDIVISION
DP660392	COMPILATION	DEPARTMENTAL
DP724470	COMPILATION	DEPARTMENTAL
DP749233	COMPILATION	CONSOLIDATION
DP752817	COMPILATION	CROWN ADMIN NO.
DP758258	COMPILATION	CROWN ADMIN NO.
DP777398	COMPILATION	CONSOLIDATION
DP796923	COMPILATION	DEPARTMENTAL
DP801765	COMPILATION	SUBDIVISION
DP812699	COMPILATION	SUBDIVISION
DP816852	COMPILATION	CONSOLIDATION
DP857103	SURVEY	SUBDIVISION
DP859446	SURVEY	CONSOLIDATION
DP880214	COMPILATION	CONSOLIDATION
DP901046	COMPILATION	UNRESEARCHED
DP929463	SURVEY	UNRESEARCHED
DP942999	SURVEY	UNRESEARCHED
DP956574	COMPILATION	UNRESEARCHED
DP962188	COMPILATION	UNRESEARCHED
DP1031722	SURVEY	ROADS ACT, 1993
DP1034934	COMPILATION	CONSOLIDATION
DP1052469	SURVEY	SUBDIVISION
DP1054164	COMPILATION	DEPARTMENTAL
DP1057401	COMPILATION	CONSOLIDATION
DP1058414	SURVEY	LEASE
DP1114288	COMPILATION	DEPARTMENTAL
DP1114303	COMPILATION	DEPARTMENTAL
DP1133064	COMPILATION	CONSOLIDATION
DP1173996	COMPILATION	CONSOLIDATION
DP1188198	COMPILATION	CONSOLIDATION
DP1219753	COMPILATION	CONSOLIDATION
DP1220675	COMPILATION	CONSOLIDATION
DP1235988	SURVEY	CONSOLIDATION
SP52228	COMPILATION	STRATA PLAN
SP63891	COMPILATION	STRATA PLAN



[redacted]

CERTIFICATE OF TITLE

15514055

Register

NEW SOUTH WALES

REAL PROPERTY ACT, 1900

Vol. 15514 Fol. 55

First Title Vol. 3006 Fol. 58

Prior Title Vol. 6704 Fol. 102

EDITION ISSUED 16 12 1987

I certify that the person named in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set out below) in the land described subject to the recordings appearing in the Second Schedule and to the provisions of the Real Property Act, 1900.

Registrar General.

CANCELLED

SEE AUTO FOLIO

LAND REFERRED TO

Lot B in DP346105 at Coffs Harbour in the Shire of Coffs Harbour Parish of Coff County of Fitzroy.

Title Diagram: DP346105.

FIRST SCHEDULE

LOCKETT AND MONTGOMERIE PTY. LIMITED.

SECOND SCHEDULE

1. Land excludes minerals and is subject to reservations and conditions in favour of the Crown - see Crown grant.
2. X139667 Mortgage to Australia and New Zealand Banking Group Limited.

(Page 1) Vol. 15514 Fol. 55

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

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

Vol 15514 Fol 55

L.O. 55

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR | Registrar General

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS | Registrar General | CANCELLATION

NOTATIONS AND UNREGISTERED DEALINGS

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

Licence: 01-05-025
Licensee: Walsh & Associates

TRANSFER

New South Wales
Real Property Act 1900

8951849A

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY

Office of State Revenue use only — OFFICE OF STATE REVENUE (N.S.W. TREASURY)
CLIENT No. 3795605 — STAMP No. 208
STAMP DUTY $2.00 — SIGNATURE
TRANSACTION No. 022604 — DATE 26/06/02
ASSESSMENT DETAILS:

(A) TORRENS TITLE

If appropriate, specify the part transferred
20/6/758258

(B) LODGED BY

Delivery Box	Name, Address or DX and Telephone	CODES
45A	NATIONAL AUSTRALIA BANK 197 Prospect Highway Seven Hills NSW 2147 45A Fax 8825 0404 Reference (optional): 02ZM6602	T TW (Sheriff)

(C) TRANSFEROR

INDERJIT SINGH and HARJEET KAUR SINGH

(D) CONSIDERATION
(E) ESTATE

The transferor acknowledges receipt of the consideration of $375,000.00 and as regards the land specified above transfers to the transferee an estate in fee simple.

(F) SHARE TRANSFERRED

(G) Encumbrances (if applicable) 1. 2. 3.

(H) TRANSFEREE

FRANCORP PTY LIMITED ACN 007401283

(I) TENANCY:

DATE

(J) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:
Name of witness: D Hall.
Address of witness: 7 Abel Tasman Dr
Coffs Harbour

Certified correct for the purposes of the Real Property Act 1900 by the transferor.

Signature of transferor:

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

Signature:

Signatory's name: Anthony Francis Walsh
Signatory's capacity: Solicitor for the Transferee

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

OFF CL/5903419

97-01TP

TRANSFER UNDER POWER OF SALE

Section 58 Real Property Act 1900

U 217277 S

B

Office of State Revenue use only

$2.00 070394 0911 04 401130785/01

(A) LAND TRANSFERRED

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

Folio Identifier B/346105

(B) LODGED BY

L.T.O. Box	Name, Address or DX and Telephone	COLEMAN & GREIG SOLICITORS 189 Y
	REFERENCE (max. 15 characters):	SAL/ARMY

(C) TRANSFEROR AUSTRALIA & NEW ZEALAND BANKING GROUP LIMITED

being the mortgagee in **MORTGAGE** X139667 dated 11th September 1987 from the registered proprietor of the above Land, acknowledges receipt of the consideration of $ 165,000.00 and in exercise of power of sale under that Mortgage transfers an estate in fee simple in the above Land to the Transferee

(D) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(E) TRANSFEREE

TP

THE SALVATION ARMY (NEW SOUTH WALES) PROPERTY TRUST
140 Elizabeth Street, Sydney

(F) TENANCY:

S

(G) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE** 15th April 1994

Signed in my presence by the transferor who is personally known to me.

Signed in my presence on behalf of the said Bank by its Attorney GREGORY CHARLES BRITNALL who is personally known to me

Signature of Witness

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Name, address and occupation of Witness (BLOCK LETTERS)

AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED
(A.C.N. 005 357 522)
by its Attorney

and, I, the said Attorney state that I have not received any notice of the revocation of the Power of Attorney registered in the Office of the Registrar General Sydney as No. 878 Book 4601 under which this document is executed.

Signature of Transferor

Acting/District Manager/~~Senior Manager Retail Banking~~ for the time being of Australia and New Zealand Banking Group Limited.

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

PAUL LUCAS

Solicitor for ~~Signature of~~ Transferee

CHECKED BY (office use only)

OFF MT X139667

F.P. 346105

Plan Form No 6 (for transfers, leases etc) DP 87138

Municipality of / Shire of Dorrigo

PLAN

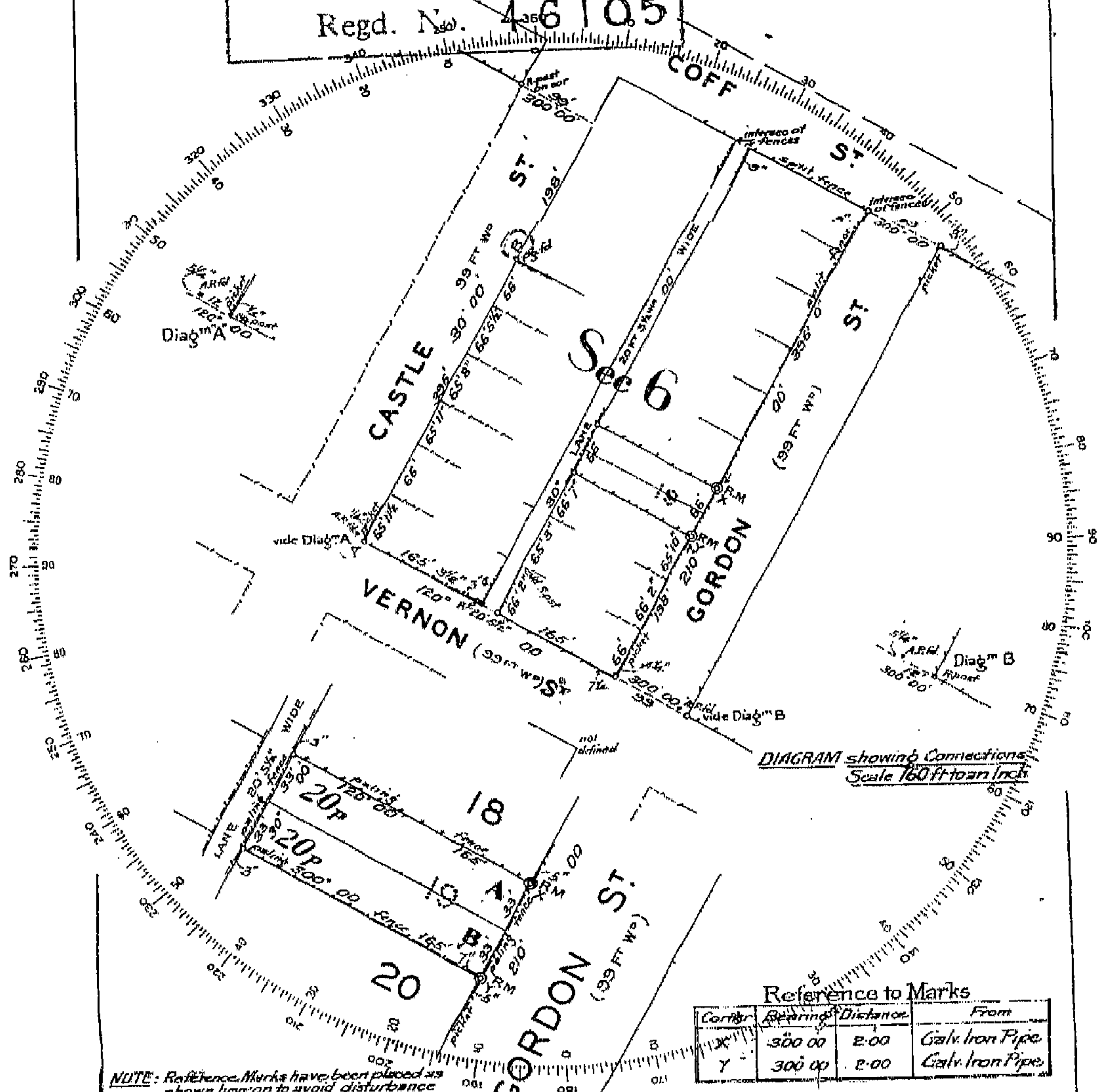
showing subdivision of Allotment 19 Section 6
TOWN OF COFFS HARBOUR

Parish of Coff County of Fitzroy

Scale 80 feet to an Inch. Vol 4273 Fol 247.

Misc. Plan of Subdn. (R.P.)
Regd. No. 46105

This margin to be left free from notation



Reference to Marks

Corner	Bearing	Distance	From
X	300 00	2·00	Galv. Iron Pipe
Y	300 00	2·00	Galv. Iron Pipe

NOTE: Reference Marks have been placed as shown hereon to avoid disturbance when removing paling fence.

Approved by Council and covered by Council Clerks Certificate

No. 12 of 39

Ray Smith
Council Clerk.

I Gordon Forster Loxton of Grafton a Surveyor registered under the Surveyor's Act, 1929, do hereby solemnly and sincerely declare (a) that all boundaries and measurements shown on this plan are correct, (b) that all survey marks found and relevant physical objects on or adjacent to the boundaries are correctly represented, (c) that all physical objects indicated actually exist in the positions shown, (d) that the whole of the material facts in relation to the land are correctly represented, (e) that the survey represented in this plan has been made in accordance with the Survey Practice Regulations, 1933 *(1) by *(2) ~~under my supervision, the character and extent of which was as required by the Survey Practice Regulations, 1933~~, and was completed on the twenty ninth day of May A.D. 1939 and reference marks have been placed as shown hereon. And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Oaths Act, 1900.

(Signature) Gordon F Loxton
Surveyor registered under the Surveyors Act, 1929

Subscribed and declared before me at Grafton this 5th day of June A.D. 1939
[signature]

Datum line of Azimuth A.B.

*Strike out either (1) or (2). †Insert date of Survey.

This is the plan marked " " referred to in
Dated

Signatures of parties to be made in this margin.

CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS

DP 346105

FEET	INCHES	METRES
-	0 1/4	0.006
-	1 1/4	0.032
-	3	0.076
-	5	0.127
-	5 1/4	0.133
-	7 1/4	0.184
-	9	0.229
2	-	0.610
3	3 5/8	1.006
6	6 5/8	1.997
12	-	3.658
16	-	4.877
20	-	6.096
20	5 1/2	6.236
33	-	10.058
65	3	19.888
65	8	20.015
65	11	20.091
65	11 1/2	20.104
66	-	20.117
66	2	20.168
66	5 1/2	20.257
66	7	20.295
99	-	30.175
165	-	50.292
165	3 1/2	50.381
198	-	60.350
210	-	64.008
300	-	91.440
396	-	120.701
6555	10	1998.218

AC	RD	P	SQ M
-	-	20	505.9

DP87138

I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 17th day of July, 1978
[signature]

Table of mm

1

PLAN FORM 1

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

*OFFICE USE ONLY

Council Clerk's Certificate

I hereby certify that

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

~~*(b) the requirements of section 34B of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended. †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended~~

have been complied with by the applicant in relation to the proposed Subdivision
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 63/1987

Date 10-7-1987

(Signature) [illegible]
Council Clerk

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.
†Delete if inapplicable.

Surveyor's Certificate

I, MICHAEL F. LAMONT
LOCKETT & MONTGOMERIE
of DX 7557 COFFS HARBOUR
a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan IS COMPILED
is accurate and ~~has been made *(1) by me (2) under my immediate supervision~~ in accordance with the Survey Practice Regulations, 1933, and was completed on † 17TH. JUNE 1987

Signature [illegible]

Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth.
*Strike out either (1) or (2). †Insert date of survey.

PLAN CONSOLIDATION OF LOT A D.P. 346105 AND LOTS C & D D.P. 19376

~~Mun.~~/Shire ~~City~~ : COFFS HARBOUR

Locality: COFFS HARBOUR

Parish: COFF

County: FITZROY

Reduction Ratio 1: 800

Lengths are in metres

DP 749233 *

Registered: [illegible] 1/10/1987

C.A.: Nº 63/1987 OF 10·7·1987

Title System: TORRENS

Purpose: CONSOLIDATION

Ref. Map: Y0942-42#

Last Plan: D.P. 346105, D.P. 19376

N00IKIB

Signatures, seals and statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

THE COMMON SEAL of THE STATE (NEW SOUTH WALES) PROPERTY [illegible] was hereunto affixed pursuant to a resolution of the Trustees in the presence of

[illegible]

[illegible]

[illegible]

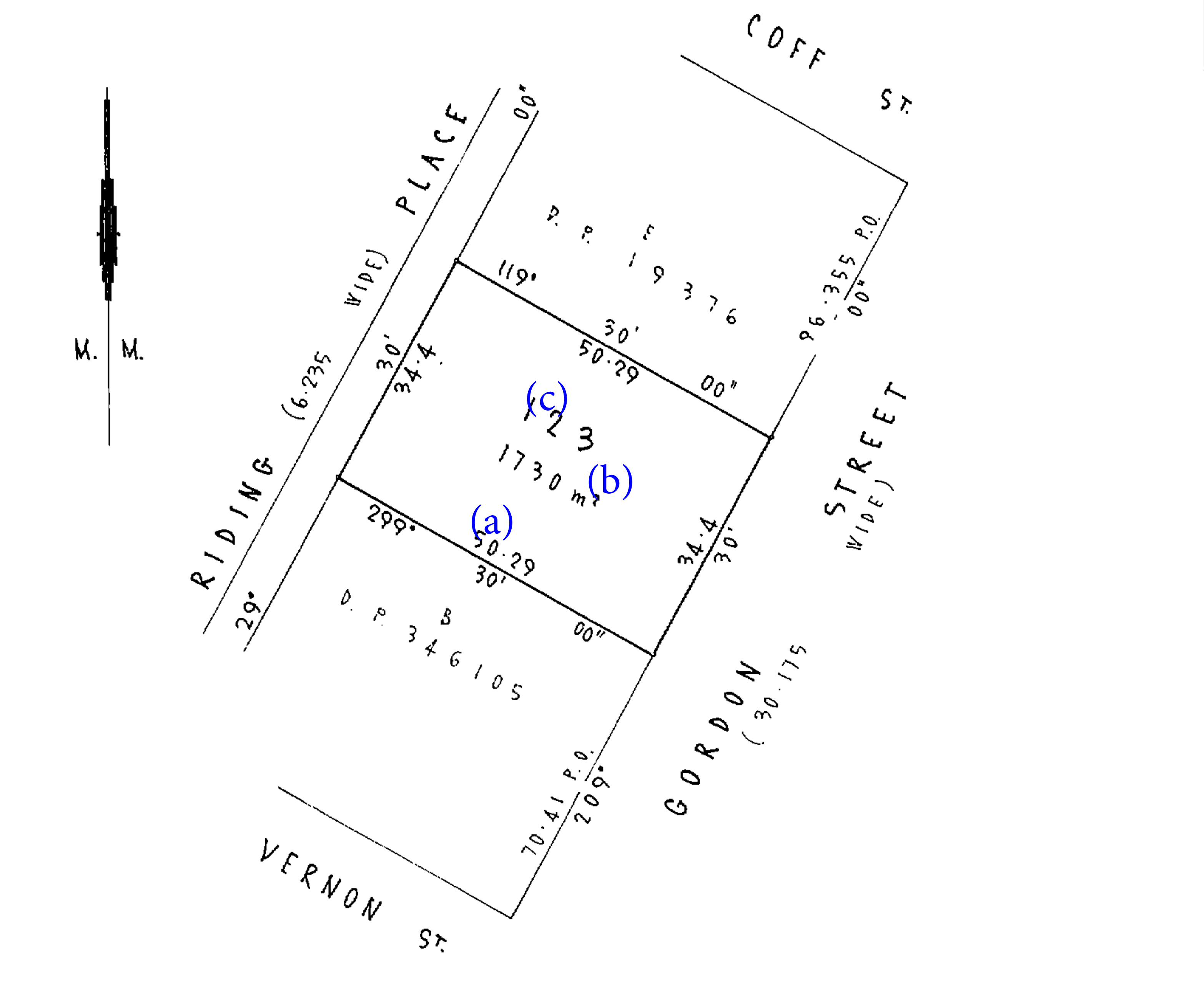


Table of mm 10 20 30 40 50 60 100 110 120 130 140 150 160 170

M.P.D.

SURVEYOR'S REFERENCE 19142 / 87089

Plan Drawing only to appear in this space

10	20	30	40	50	60	70 Table of mm	110	120	130	140

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 1st October, 1987

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/3/2019 12:45PM

FOLIO: 20/6/758258

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 4319 FOL 156

Recorded	Number	Type of Instrument	C.T. Issue
23/3/1990		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
6/2/1992		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
15/6/1999	5903419	LEASE	EDITION 1
13/9/2002	8951848	DISCHARGE OF MORTGAGE	
13/9/2002	8951849	TRANSFER	
13/9/2002	8951850	MORTGAGE	EDITION 2
12/3/2003	9443778	DISCHARGE OF MORTGAGE	
12/3/2003	9443779	TRANSFER	EDITION 3
2/8/2010	AF664945	LEASE	EDITION 4

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/3/2019 12:49PM

FOLIO: 123/749233

First Title(s): VOL 1741 FOL 204 VOL 3006 FOL 58
Prior Title(s): VOL 6081 FOL 157 VOL 6421 FOL 72
VOL 7164 FOL 157

Recorded	Number	Type of Instrument	C.T. Issue
7/10/1987	DP749233	DEPOSITED PLAN	FOLIO CREATED EDITION 1
25/3/2004	AA521320	TRANSFER	EDITION 2

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/3/2019 12:45PM

FOLIO: B/346105

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 15514 FOL 55

Recorded	Number	Type of Instrument	C.T. Issue
29/7/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
3/10/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/9/1990	Z195981	CAVEAT	
15/2/1991	Z325176	REQUEST	
28/4/1994	U217277	TRANSFER BY MORTGAGEE UNDER POWER OF SALE	EDITION 1
25/3/2004	AA521320	TRANSFER	EDITION 2

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 20/6/758258

SEARCH DATE	TIME	EDITION NO	DATE
19/3/2019	12:43 PM	4	2/8/2010

LAND

LOT 20 OF SECTION 6 IN DEPOSITED PLAN 758258
AT COFFS HARBOUR
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF COFF COUNTY OF FITZROY
(FORMERLY KNOWN AS ALLOTMENT 20 OF SECTION 6)
TITLE DIAGRAM CROWN PLAN 1.2775

FIRST SCHEDULE

COFFS HARBOUR CITY COUNCIL (T 9443779)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
2 AF664945 LEASE TO GEOLINK CONSULTING PTY LIMITED EXPIRES: 30/6/2012.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 123/749233

SEARCH DATE	TIME	EDITION NO	DATE
19/3/2019	12:45 PM	2	25/3/2004

LAND

LOT 123 IN DEPOSITED PLAN 749233
AT COFFS HARBOUR
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF COFF COUNTY OF FITZROY
TITLE DIAGRAM DP749233

FIRST SCHEDULE

COFFS HARBOUR CITY COUNCIL (T AA521320)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: B/346105

SEARCH DATE	TIME	EDITION NO	DATE
19/3/2019	12:44 PM	2	25/3/2004

LAND

LOT B IN DEPOSITED PLAN 346105
AT COFFS HARBOUR
LOCAL GOVERNMENT AREA COFFS HARBOUR
PARISH OF COFF COUNTY OF FITZROY
TITLE DIAGRAM DP346105

FIRST SCHEDULE

COFFS HARBOUR CITY COUNCIL (T AA521320)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 19/3/2019

Appendix D

Letter from Dr David Tully CEnvP SC

Contaminated Land Solutions

12 April 2019

Ref: 0061.L01

Regional Geotechnical Solutions Pty Ltd
Unit 4
25-27 Hurley Drive
Coffs Harbour
NSW 2450

For the attention of Simon Keen

Dear Simon,

RE: Report Review Preliminary Phase 1 Site Contamination Assessment Report – Proposed Cultural & Civic Space Project, 23-31 Gordon Street, Coffs Harbour

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

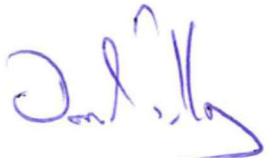
I confirm I have reviewed the Regional Geotechnical Solutions report entitled "Preliminary Phase 1 Site Contamination Assessment Report – *Proposed Cultural & Civic Space Project, 23-31 Gordon Street, Coffs Harbour*" (Ref: RGS31785.1-AB), dated 12 April 2019 and a copy of which I have retained.

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

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

For and on behalf of

Contaminated Land Solutions Pty Ltd



Dr David Tully CEnvP SC
Director
Contaminated Land Solutions Pty Ltd

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