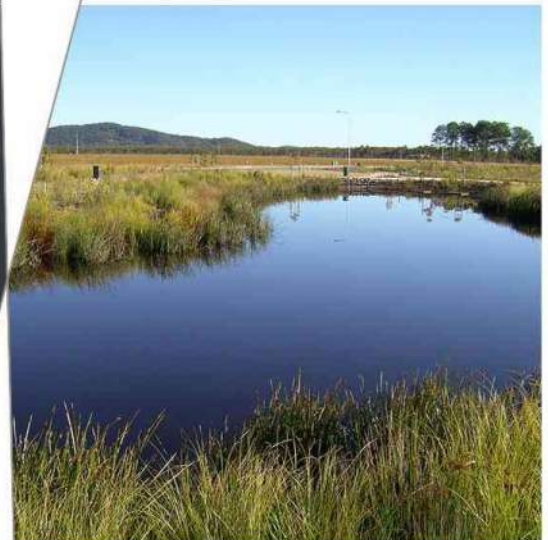


Report on Preliminary Site Investigation

Bakali Road, Forresters Beach, NSW

80519020-004



Prepared for
Wathara NSW Pty Ltd

15 November 2021

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Prepared for Wathara NSW Pty Ltd

Project Name Bakali Road, Forresters Beach, NSW

File Reference Report on Preliminary Site Investigation – Bakali Road, Forresters Beach, NSW

Job Reference 80519020-004

Date 15 November 2021

Version Number 1

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Effective Date

15/11/2021

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15/11/2021

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
1	15/11/2021	First Issue to Client	KS	DS/IGP

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Executive Summary

Cardno (NSW/ACT) Pty Ltd (Cardno) have been engaged by Wathara NSW Pty Ltd (the Client) to prepare a Preliminary Site Investigation (PSI) report for the proposed residential development at Bakali Road, Forresters Beach NSW (the Site). Cardno has previously undertaken investigation and provided commentary on potential contamination at the Site in report titled Urban Capability Assessment – Proposed Residential Development, Bakali Road, Forresters Beach (80514013-002.1)", dated 23rd December 2020 [1].

Due to the extended period of time between the initial UCA and planning approvals, Cardno have been engaged to review the existing findings, comment on current conditions, and provide a standalone PSI consistent with current reporting requirements for phase 1 site assessment [2]. During the elapsed time period, Central Coast Council (CCC) have flagged the presence of additional filling in the southern portion of Lot 522 DP 1077907 and as such, additional inspection and sampling was undertaken and is included as part of this assessment.

The purpose of this PSI is to provide the Client with preliminary advice on the contamination status of the site and subsequent implications for the intended use. The PSI reviews current and historical activities undertaken at the site and provides a preliminary environmental assessment of the potential for soil and/or groundwater contamination to be present on the site. The following tasks formed the scope of works Cardno undertook to complete the PSI:

- > Defining of the Site extents, features and surrounding area;
- > Review of hydrogeology and groundwater resource use;
- > Review of public records on Site history;
- > Site inspection of the site and surrounding land;
- > Review of previous intrusive site investigation, sampling and testing undertaken at the Site as well as additional inspection and sampling in areas of concern; and
- > Preparation of a PSI report to advise on the Site's preliminary contamination status.

As part of the initial investigation, multiple soil samples were subject to laboratory analysis for contamination suites. Following inspection of the additional stockpile flagged within the southern portion of the Site, additional laboratory analysis was undertaken on samples gathered from the stockpile. Contamination testing undertaken comprised; heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni & Zn), organochlorine pesticides (OCPs) and organophosphate pesticides (OPPs), Total Recoverable Hydrocarbons (TRH), BTEXN (Benzene, Toluene, Ethyl-benzene, Xylenes and Naphthalene), Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Compounds (VOC) and Polychlorinated Biphenyls (PCB).

Results from laboratory testing indicate there were no exceedances of the Health Investigation thresholds (HIL A) for the analytes tested as detailed in NEPM 1999 [3].

Based on the review of the Site history, geotechnical works and Site inspection, Cardno identified no past or current, potentially gross contaminating activities having been undertaken on or adjacent to the Site.

Given the results of this assessment, Cardno recommend the development of an unexpected finds protocol to address isolated stockpiles of fill onsite and any potential contamination uncovered during construction phase. The Site is considered low risk of potential contamination based on the review of Site history, geotechnical works, investigation findings and the identified data gap. Based on the findings of the PSI, Cardno did not identify contamination or potentially contaminating activities previously undertaken on Site that would render the site unsuitable for its proposed use.

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Our report is based on information made available by the client. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Cardno is both complete and accurate. Whilst, to the best of our knowledge, the information contained in this report is accurate at the date of issue, changes may occur to the site conditions, the site context or the applicable planning framework. This report should not be used after any such changes without consulting the provider of the report or a suitably qualified person.

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1 Introduction

Cardno (NSW/ACT) Pty Ltd (Cardno) were engaged by Wathara NSW Pty Ltd (the Client) to prepare a Preliminary Site Investigation (PSI) report for the proposed residential development at Bakali Road, Forresters Beach NSW. The Site assessment area is shown on Figure 1, attached in Appendix A.

1.1 Background

Based on the supplied plans provided by the Client (attached in Appendix A), the proposed residential development is to comprise to creation of up to 45 residential allotments and the construction of associated infrastructure across three (3) stages.

Cardno have previously prepared an urban capability assessment (UCA) for the Site under cover “Urban Capability Assessment – Proposed Residential Development, Bakali Road, Forresters Beach (80514013-002.1)”, dated 23rd December 2020 [1] to assist with subdivision design and form part of the original DA submission. Due to the extended period of time between the initial UCA and planning approvals, Cardno have been engaged to prepare an additional PSI to review the existing findings, comment on current conditions, and provide a standalone PSI consistent with current reporting requirements for phase 1 site assessment [2]. Council have also flagged the presence of additional filling in the southern portion of Lot 522 DP 1077907, as such, additional inspection and sampling was undertaken and is included as part of this assessment.

The current PSI included a site inspection and desktop study of available historical data including a review of the Central Coast Council (CCC) Section 149 Planning Certificates, historical aerial photographs, title deeds and NSW EPA database. The assessment was undertaken with reference to NSW EPA “Consultants reporting on contaminated land Contaminated land guidelines” [2] and *National Environment Protection Measure (NEPM) for the Assessment of Site Contamination, 1999* [3].

1.2 Purpose and Objectives

The purpose of this PSI is to provide the Client with preliminary advice on the contamination status of the site and subsequent implications for the intended use. The PSI reviews current and historical activities undertaken at the site and provides a preliminary environmental assessment of the potential for soil and/or groundwater contamination to be present on the site.

The objectives of the PSI are to:

- > To the extent practicable, identify the potential for past or present activities on; and surrounding the site, to have impacted soil or groundwater at the site.
- > Identify potential areas and contaminants of concern at the site.
- > Identify potential receptors of concern and assess the potential for the protected beneficial uses of the land to be impacted due to contamination.
- > To make a preliminary assessment of whether contamination is likely to affect the future use or development of the site.
- > Assess the requirement, if any, for further environmental investigation to assess or make the site suitable for the proposed use.

1.3 Scope

Cardno carried out the following tasks in order to satisfy the purpose and objectives of the PSI assessment.

Defined the Site, Features & Surrounds:

- > Obtained the property title description from a Land-data Property Report.
- > Defined the site boundaries based on title information, available data and established a site base plan.
- > Identified the site features.
- > Defined the topography, surface water drainage of the site and its proximity to the nearest surface water body.

- > Identified the location of nearby sensitive environments and receptors such as residential, child-care and primary schools, wetlands, streams or rivers.
- > Identified the zoning of the site under the local Planning Scheme.
- > Reviewed of previous investigations undertaken within the area.

Hydrogeology & Groundwater Resource Use

- > Ascertained the potential utilisation of groundwater at and near the site through a search of the NSW Groundwater Database at NSW Office of Water website.

Review of Public Records on Site History

Reviewed publicly available documents relevant to the site including:

- > The historical chain of land titles.
- > Historical and current maps of the area.
- > Selected historical aerial photos available from the Department of Lands.
- > Reviewed the NSW EPA Contaminated Lands Register to identify nearby contaminated sites reported to the NSW EPA under section 60 of the CLM (1997).

Site Inspection & Surrounds

- > Confirmed the site features and identified any visible evidence of fuel storage tanks (above or belowground) and other infrastructure with potential to act as a source of soil and/or groundwater.
- > Confirmed the soil type and looked for evidence of site cutting and filling.
- > Assessed the surrounding area (to a radius of approximately 500 m) for potential sources of contamination of soil or groundwater at the site.

Intrusive Site Investigation Sampling & Testing

- > Performed limited investigations of soil conditions at nine selected locations to a maximum depth of 0.6m.
- > Tested selected soil samples for a broad range of analytes (by a National Association of Testing Authorities (NATA) accredited laboratory).

Reporting

- > Prepared a Preliminary Site Investigation (PSI) report to document the assessment activities and results to including findings and recommendations relevant to the objectives of the assessment.
- > Developed a Conceptual Site Model (CSM) for the site, identifying complete and potential pathways between known and potential sources and receptors. This CSM is incorporated in this investigation report.

2 Previous Investigations

2.1 Urban Capability Assessment

Cardno has previously undertaken an Urban Capability Assessment (UCA) at the Site [1] to assist with subdivision design and provide commentary regarding contamination status of the Site to form part of the original DA submission. The investigation was undertaken on 20th and 21st October 2015 and comprised:

- > Site walkover by an experienced geotechnical engineer to map salient features at the Site;
- > Drilling of 14 test bores by mechanical auger to depths in the order of 2.2 m below ground level (BGL);
- > Dynamic Cone Penetrometer (DCP) testing which was conducted adjacent to test bores;
- > Representative sampling of material encountered at the Site; and
- > Additional assessment of stockpiles at the Site.

The report was preliminary in nature and comprised:

- > Identification of potentially contaminating activities that are currently or had previously been undertaken on site.
- > Identification of potential contaminant concerns.
- > Drilling of test bores to map subsurface strata and collect samples for laboratory testing.
- > Collection of samples for various contamination tests.
- > Production of Preliminary Contamination Assessment.
- > Assessment of need for further contamination specific investigations.

The Cardno Report [1] concluded that the contamination risk across the Site was generally 'low' and is not considered to pose a threat to the proposed residential development. Data from the investigation and subsequent report are included herein where relevant.

3 Site Inspection and Surrounding Environment

3.1 Site Identification

The subject Site details are presented in Table 3-1 below. For Site location, refer to Figure 1 in Appendix A.

Table 3-1 Site Details

Site Address	Bakali Road, Forresters Beach, NSW
Lot Number and Deposited Plan	<ul style="list-style-type: none"> ▪ Lots 1 to 4 DP1000694 ▪ Lot 522 DP1077907 ▪ Lot 3 DP101649 ▪ Lot 18 DP23283 ▪ Lot 51 DP1028301
Site Area	Approx. 9.8 ha
Local Government Area	Central Coast Council
Relative Zoning (Gosford Local Environmental Plan Invalid source specified.)	<ul style="list-style-type: none"> ▪ Lots 1 to 4 in DP1000694 – DM Deferred Matter ▪ Lot 522 in DP1077907 – DM Deferred Matter ▪ Lot 3 DP101649 – DM Deferred Matter ▪ Lot 18 DP23283 – DM Deferred Matter ▪ Lot 51 DP1028301 – DM Deferred Matter

3.2 Site Use and Infrastructure

A site inspection was undertaken by a Principal Consultant from Cardno on 14th October 2021 in order to identify and map salient features of the site and the surrounding area. The inspection comprised a walkover assessment. Site features and observations are detailed in Table 3-2 below.

Table 3-2 Site features and Observations

Item	Observations
Site use	<ul style="list-style-type: none"> ▪ The overall developable site was previously utilised as residential and small-scale farming activities. ▪ The site contained both unoccupied and occupied residential dwellings.
Weather condition	<ul style="list-style-type: none"> ▪ Sunny.
Site slope and drainage features	<ul style="list-style-type: none"> ▪ Topographically the site is located within relatively flat to slightly sloping terrain, located within the catchment area of Forresters Creek and Wamberal Lagoon. ▪ Slopes within the site generally fall to the west and north-west with gradients less than 3°. ▪ A drainage channel falling to the north-west divided the site into two rough sections, the Northern (NP) and Southern Portions (SP). ▪ Elevations across the site range from 15 m AHD in the North-eastern corner, 8 m AHD in the north-western corner and 10 m AHD in the south of site. ▪ A circular depression in the middle of Lot 4 DP1000694 is expected to be associated with a constructed water catchment. ▪ Surface disturbance was also observed within the southern portion of Lot 1 DP 1000694 which is understood to be associated with construction of a farm dam. Based on discussions with the landlord during the inspection of the previous UCA [1], the

Item	Observations
	dam has been disused and filled due to its' inability to retain water.
Site surface coverings	<ul style="list-style-type: none"> ▪ Mature vegetation round the creek line and open pasture.
Surface soils	<ul style="list-style-type: none"> ▪ Surface soils are predominately natural Silty CLAY / Silty SAND topsoil and fill materials.
Site cut and fill	<ul style="list-style-type: none"> ▪ Indications of earthworks were noted across the site associated with levelling of previous building platforms.
Buildings	<ul style="list-style-type: none"> ▪ Current residential dwellings across the Site comprising predominately current brick construction. ▪ Abandoned residential dwelling identified as OIN 4 in Figure 2 of Appendix A. See Photograph 3 in Appendix E.
Potential asbestos in building materials	<ul style="list-style-type: none"> ▪ Scattered fibrous material was noted in footprints of previous structures identified as OIN 5 in Figure 2 of Appendix A. See photograph 4 of Appendix E.
Manufacturing, industrial or chemical processes and infrastructure	<ul style="list-style-type: none"> ▪ Not observed.
Fuel storage tanks (USTs/ASTs)	<ul style="list-style-type: none"> ▪ Not observed.
Dangerous goods	<ul style="list-style-type: none"> ▪ Not observed.
Presence of stockpiles, fly tipping or anthropogenic materials	<ul style="list-style-type: none"> ▪ Multiple stockpiles were noted across the Site identified as OIN 1-2, 6-10 on Figure 2 attached in Appendix A. See Photographs 1, 2, 5 and 6 in Appendix E. ▪ Newer stockpile dumping is shown as OIN 10 on Figure 2 attached in Appendix A, with Photographs 7-9 shown in Appendix E.
Liquid waste disposal features	<ul style="list-style-type: none"> ▪ Not present.
Evidence of previous site contamination investigations	<ul style="list-style-type: none"> ▪ Not observed
Evidence of land contamination (staining or odours)	<ul style="list-style-type: none"> ▪ Not observed.
Evidence of groundwater contamination	<ul style="list-style-type: none"> ▪ Not observed.
Groundwater use	<ul style="list-style-type: none"> ▪ Not observed.
Vegetation	<ul style="list-style-type: none"> ▪ Open grass pasture and sporadic mature trees across the Site. ▪ Cluster of mature tress surround the creek line in the northern portion of the Site.
Site fencing	<ul style="list-style-type: none"> ▪ Timber and mesh fencing was noted around most properties with the exception of Lot 522 DP1077907.
Additional Notes and Observations	-

3.3 Surrounding Environment and Land uses

The site is located within rural and residential area of Forresters Beach. Land uses around the site are detailed in the Table 3-3 below.

Table 3-3 Surrounding Land Use

Direction	Land Use or Activity
North	<ul style="list-style-type: none"> ▪ Existing residential development.
West	<ul style="list-style-type: none"> ▪ Existing rural development.
East	<ul style="list-style-type: none"> ▪ Existing residential development and the Central Coast Highway.
South	<ul style="list-style-type: none"> ▪ Existing residential development and the Central Coast Highway.

The area is serviced by public roads and access to the Site is via Bakali Road.

4 Published Data

4.1 Regional Geology

Reference to the New South Wales Seamless Geology dataset [4] indicates the Site is underlain as follows:

- > Northern Portion: Alluvial Valley Deposits (Q_av) known to comprise silt, clay (fluviially deposited) lithic to quartz-lithic sand, and gravel.
- > Southern Portion: Patonga Claystone (Tncp) of the Clifton Subgroup and Narrabeen Group, known to comprise red-brown claystone and siltstone, light green grey fine grained sandstone and residual soils derived by the weathering of these rocks.

An overlay of the approximate Site boundary over the geology dataset is shown below in

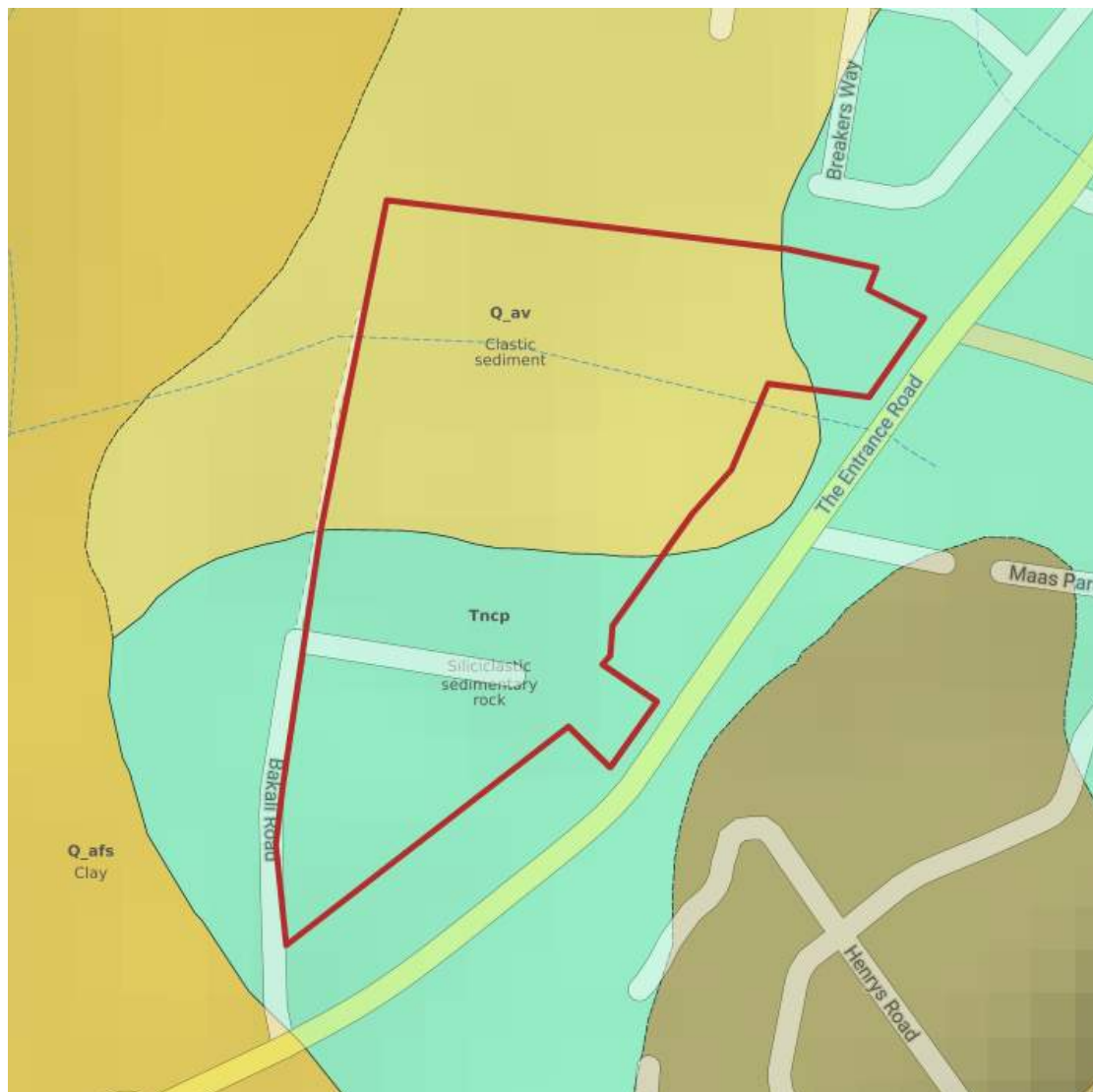


Figure 4-1 Geology Dataset Overlay

4.2 Acid Sulfate Soils

A review of the Central Coast Council Electronic Mapping System acid sulphate risk maps revealed that the site is situated within an area of no known occurrence of Acid Sulphate soils (ASS).

Further review of Gosford Council Environmental Plan (LEP) 2014 [5] Acid Sulfate Soils Risk Map shows the site is not situated within a classified ASS class.

4.3 Hydrogeology

A search of the NSW Groundwater Database from Department of Primary Industries – Office of Water NSW, found one (1) bore within 500 m of the site. The searches are presented in Appendix B and summarized in **Table 4-1**.

Table 4-1 Registered Groundwater Bore Search Summary

Bore ID	Approximate Distance from the site	Intended Purpose	Depth of bore m (BGL)	Standing Water level m (BGL)	Subsurface Profile
GW201938	400m south-east	Domestic	18.0	8.0	Sand and clay to 16.0 followed by shale to depth

Notes:
 BGL: Below Ground Level

4.4 EPA Records Search

4.4.1 Contaminated Land Record of Notices

The Contaminated Land Record of Notices is maintained by the Office of Environment and Heritage (OEH) in accordance with Part 5 of the Contaminated Land Management (CLM) Act 1997 and contains regulatory notices issued by the Environment Protection Authority (EPA) in relation to contaminated sites. A search of NSW EPA Record of Notices on 9th November 2021 revealed no notices listed at or within 1 km of the site.

4.4.2 PoEO Public Register

The PoEO Public Register under Section 308 of the Protection of the Environment Operations (PoEO) Act 1997 contains Environment Protection Licences (EPLs), applications and notices issued by the EPA.

The Public Register was searched to identify any issues of relevance to the Site. The search was undertaken on 9th November 2021 with no licensed activities at or within a 1 km radius of the Site.

4.4.3 List of NSW Contaminated Sites Notified to the EPA

A search of the List of NSW Contaminated Sites Notified to the EPA on 9th November 2021 indicated there were no contaminated sites notified to the EPA within a 500 m radius of the Site.

5 Site History

5.1 General

The Site history comprised review of the title deed searches, available published data, Section 10.7 planning certificates and aerial photography review, attached in Appendix B. The site history review is detailed herein.

5.1.1 Historical Title Deeds Search

The title deeds search results for five of the eight allotments were supplied by the client which provided limited information about the history of the Site ownership. Review of the title deeds search results indicated that:

- > Lot 4 DP100694 has been owned by Versatile Living Pty Ltd.
- > Lot 51 DP 1028301, Lot 3 DP 101649, Lot 522 DP 1077907 and Lot 18 DP 23283 have been owned by Terrigal Grosvenor Lodge Pty Ltd.

In addition, Legal Liaison Searching Services was engaged by Cardno to undertake a title deed search of the remaining three lots. The search results are contained in Appendix B and are broadly summarised as detailed in Table 5-1.

It is noted that allotment identification numbers have changed for the subjected lots over the years and are detailed in the tables below.

Historical Title Deeds are attached in Appendix B.

Table 5-1 Historical Title Deeds

Year	Registered Proprietor(s)	Occupation/Possible Land Use
As regards the part tinted pink and orange on the attached copy of DP 1000694 (This part was formerly a road subsequently closed by notification in Government Gazette dated 15/07/1905).		
1931	NSW Realty Co Limited	-
1931 – 1936	William Harvey	Retired Manufacturer
1936 – 1941	William Hedley Harvey	Furniture Warehouseman
1941 – 1951	Otto Oscar Groth	Produce Merchant
1951 – 1959	Emma My Jorgensen	Married Women
1959 – 1972	Linda Monica Barrie	Widow
	James Albert Barrie	Motor Mechanic
	Mervyn Francis Barrie	Motor Mechanic
1972	James Albert Barrie	Motor Mechanic
	Mervyn Francis Barrie	Motor Mechanic
1972 - 1973	Kevin Albert Barrie	Motor Mechanic
	Mervyn Francis Barrie	Motor Mechanic
1973 – 1992	K & M Rubie Pty Ltd	-
1992	Robert William Polley	-
	Anne Patterson Polley	
	Loui Nicholas	
	Mary Nicholas	
	Luigi Cicco	
	Thomas Hope Murrie	
	Donna Leanne Rush	
John Lisbona		
	Bellhome Pty Limited	
1992 – 1999	The Park-Forresters Beach Pty Ltd	-
As regards the park tinted yellow on the attached copy of DP 1000694.		
1913 – 1920	NSW Realty Co Limited	-

Year	Registered Proprietor(s)	Occupation/Possible Land Use
1920 – 1943	William Julian Hosking	Painter and his deceased estate.
1943 – 1947	Stanley Robert Dalziell	Turner
1947 – 1949	Thomas Kenneth Griffiin	Poultry Farmer
1949 – 1954	Ethel Mary Mullen	Married Woman
1954 – 1969	Albert Gregory	Poultry Farmer
1969	Frederick Roy Bononfant	Retired
1969 – 1974	Keith Edward Jones Breyl May Jones	Butcher Married Woman
1974 – 1977	Romon (No. 10) Pty Ltd	-
1977 – 1992	K & M Rubie Pty Ltd	-
1992	Robert William Polley Anne Patterson Polley Loui Nicholas Mary Nicholas Luigi Cicco Thomas Hope Murrie Donna Leanne Rush John Lisbona Bellhome Pty Limited	-
1992 – 1999	The Park-Forresters Beach Pty Ltd	-
Search continued as regards Lot 1 DP 1000694.		
1999 – Date	Melissa Leigh Hall Damian Bradley James Scott	-
Search continued as regards Lot 2 DP 1000694.		
1999 – Date	Craig John Horton Trudy Anna Horton	-
Search continued as regards Lot 3 DP 1000694.		
1999 – 2002	John Stephen Barr Kathryn Jane Barr	-
2002 – Date	Brendon Robert Briggs Julie Anne Briggs	-

5.1.2 Central Coast Council Planning Information

Section 149 certificates for the eight allotments forming the proposed development were obtained from CCC during the initial UCA [1]. Review of the planning certificates are summarised in Table 5-2 below.

Table 5-2 Review of Section 149 Certificates

Identification	Zoning and Land Use	Mine Subsidence within the Meaning of Section 15 of Mine Subsidence Compensation Act 1961	Flood Related Controls	Bushfire Prone Land	Contaminated Land Management Act 1997 Notices Under Section 59 (2)
Lot 522 DP 1077907	<ul style="list-style-type: none"> ▪ No.7(a) conservation and scenic protection (conservation) ▪ 7(c2) conservation and scenic protection (scenic protection-rural small holdings) 	The land has not been proclaimed	No	All parts of the land is shown as bushfire prone on council's records	No
Lot 1 DP 1000694, Lot 2 DP 1000694, Lot 3 DP 1000694, Lot 4 DP 1000694	7(c2) conservation and scenic protection (scenic protection-rural small holdings)	The land has not been proclaimed	No	All parts of the land is shown as bushfire prone on council's records	No
Lot 51 DP 1028301, Lot 51 DP 1028301 and Lot 3 DP 101649	7(c2) conservation and scenic protection (scenic protection-rural small holdings)	The land has not been proclaimed	No	All parts of the land is shown as bushfire prone on council's records	No

5.1.3 Review of the Historical Aerial Photos

Cardno has conducted a review of historical aerial photographs or available aerial imagery, current site inspection, previous investigations and knowledge of the area.

A summary of the interpreted site features is detailed in Table 5-3 below and aerial photographs are provided in Appendix B.

Table 5-3 Aerial Imagery Review

Date	Reference	Observations
1954	Black and White	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ The site is covered with vegetation with the exception of the cleared areas within the north-eastern portion and mid-southern portion of the site. ▪ A residential dwelling and associated shed/garage/farm sheds are present within the eastern portion of the NP. ▪ Five large structures and a number of smaller structures are present along the eastern boundary of the NP. The structures appear to be associated with farming activities. ▪ A number of access tracks are present across the site mainly around the existing structures. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Lands to the north and west of the site are generally undeveloped. ▪ Central Coast highway is present following the current alignment. ▪ Minor rural developments are present to the east of the Central Coast Highway.

Date	Reference	Observations
1965	Black and White	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 1954 aerial. ▪ Addition of several structures (sheds) at within the SP of the site indicating potentially poultry farming. ▪ A large shed is present along the western boundary of SP at approximate location of current Lot 2 DP 1000694. ▪ The extent of site vegetation clearing similar to 1954 aerial. <p>Off Site:</p> <ul style="list-style-type: none"> ▪ A number of residential dwellings following the current layouts are present along the Central Coast Hwy to the east of the site. ▪ Increase in the density of the rural developments to the east of the Central Coast Hwy. ▪ Increase in clearing of the lands to the north of the site.
1979	Black and White	<p>On Site:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 1965 aerial. ▪ A residential dwelling has been constructed on Lot 3 DP101649 consistent with the location of surface disturbance observed in OI No. 5 in Figure 2 of Appendix A. ▪ The majority of the sheds have been removed within the SP with the exception of one long shed and one smaller along the eastern boundary of NP. ▪ Appears to be stockpiling in the SP. ▪ Fill platform associated with the large shed footprints is apparent along the western boundary of the NP. The location of the shed and filling correlates to OI No.3 in Figure 2 of Appendix A. <p>Off Site:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 1965 aerial. ▪ Appearance of residential developments to the east of the Central Coast Hwy and north of the site. ▪ Increase in the number of residential dwellings along the site eastern boundary adjacent to Central Coast Hwy. ▪ Extensive vegetation clearance immediately east of the Central Coast Hwy.
1986	Colour	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 1979 aerial. ▪ The Conditions within the SP are consistent with 1979 with the exception of extension of cleared land to the north of the SP. ▪ The formed drainage channel consistent with the present location is constructed separating NP and SP. ▪ The residential dwelling at the north-eastern corner of NP and associated farm shed/garage has been demolished. Two additional residential structures and associated garage are constructed south of the demolished dwelling. The location of one of the dwellings and garage is consistent with OI No.4 in Figure 2 of Appendix A. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 1976 aerial with an increase in the number of residential developments in the area.
1996	Colour	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ Conditions are generally consistent with 1986 aerial. ▪ The demolition refuse from previous residential dwelling located at the east of the NP has been removed. The NP conditions are similar to 1986 photograph. ▪ A larger shed of the two remaining sheds within the SP has been removed (one shed remaining). ▪ Residential dwellings have been constructed within Lot 18 DP 23283 and Lot 51 DP 1028301. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with the 1986 aerial.

Date	Reference	Observations
		<ul style="list-style-type: none"> ▪ A pump station has been constructed to the northwest of the site. ▪ Increase in the density of residential developments in the area.
2005	Colour (Google Earth)	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ The four rural dwellings present at the current site conditions have been constructed. ▪ The site manmade structures are consistent with present. ▪ The dam within the north-western corner of the SP is present on site. ▪ Placement of filling to the east of the Lot 4 DP 1000694 is visible. The location of the fill stockpiles are consistent with the OI No. 02 in Figure 2 of Appendix A. ▪ The residential dwelling to the west of the OI No. 4 in Figure 2 of Appendix A has been demolished. ▪ A number of stockpiles present to the south of the dwelling on the property Lot 1 DP 1000694. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with the 1996 aerial.
2015	Colour (Nearmap)	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 2005 aerial. ▪ The residential dwelling within the lot 3 DP 1016499 (within the eastern portion of the NP) still present on site. This dwelling did not exist at the time of site investigation and the location correlates with OI No. 5 in Figure 2 of Appendix A. ▪ The stockpiles to the south of the dwelling located on Lot 1 DP 1000694 have been removed. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with the 2005 aerial.
2021	Colour (Nearmap)	<p>Onsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 2015 aerial, with the addition of dumping in the southern portion of Lot 522 DP 1077907. <p>Offsite:</p> <ul style="list-style-type: none"> ▪ Generally consistent with 2015 aerial with the exception of the golf course which has been turned into a residential development.

5.2 Summary of Site History

Based on the review of the available historical aerial photographs, it is understood that the site has generally been used for small scale farming activities with the exception of the several farm sheds constructed within the SP in 50s and 60s with the majority of the sheds removed prior to 1979 photograph. Three residential dwelling were constructed within the north-eastern portion of the NP and have since been demolished.

6 Criteria for Contamination Assessment

The assessment criteria used in NSW to evaluate soil analytical results are based on the National Environment Protection Measure (NEPM) for the Assessment of Site Contamination, 1999 [3]. Table 5A of Schedule B (1) Guideline on Investigation Levels for Soil and Groundwater (NEPM 1999) provides default Tier I screening criteria contaminants of concern based on human health and generalised exposure scenarios.

Based on the proposed use of the Site, the following criteria have been adopted:

- > Health Investigation Levels (HIL's) "residential with garden/accessible soil" (HIL A);
- > Soil Health Screening Levels (HSL) for vapour intrusion recommended for residential (HSL A);
- > Ecological Screening Levels (ESLs) for TPH fractions F1-F4, BTEX and Benzo(a)Pyrene in soil for Urban residential and public open space; and
- > Ecological Investigation Levels (EILs) for Urban residential and public open space limits. The thresholds adopted include conservative added contaminant limit (ACL) values from Table 1B (1) to 1B (3) NEPM based on pH results of the site soils ranging between 5.8 - 6.5 and in the absence of CEC and/or % clay content testing.

"Investigation levels" or "screening levels" presented in the NEPM are not intended to be interpreted as "maximum permissible levels", "clean up levels" or "safe levels", rather, they are levels at which further investigation or assessment should be undertaken to provide assurance that unacceptable contamination does not occur to an extent that could cause harm or detriment for users of the land. Subsequent assessment on a site-specific basis often results in higher levels being acceptable. However, since the "investigation levels" or "screening levels" are generally set at conservatively low levels, they are often taken to be the acceptable levels.

Stockpiled materials of filling identified during the site inspection and sampling were predominantly comprised of Silty CLAY, Silty/Gravelly SAND, Sandy SILT. Based on the observed soil type, the ESL's and HIL's for sand, silt and clay soils have been considered. Sandy soils have been adopted, as NEPM stipulates a conservative approach for determination of observed soil type to be assessed.

In addition to the dumped fill stockpile materials, piles of general waste comprising bottles, plastic bags and PVC piping were noted around existing stockpiles.

7 Site Investigation Methodology

7.1 Fieldwork Scope

7.1.1 Previous Fieldwork

Fieldwork was undertaken on 20th and 21st of October 2015 for the UCA [1]. The investigation comprised: Site walkover by an experienced geotechnical engineer to map salient site features;

- > Drilling of fourteen test bores (TB001 to TB014) by mechanical auger mounted to a 5 tonne excavator to target depth of 2.2m BGL using a solid flight auger.
- > Engineering assessment and logging of the subsurface profiles encountered by a senior geotechnical engineer from Cardno.
- > Sampling of material considered representative of subsurface profile encountered across the site for the purpose of laboratory assessment.
- > Backfilling of the holes with excavation spoil materials.

Borehole locations are attached on Site Plan in Appendix A with borehole logs attached in Appendix C.

7.1.2 Supplementary Fieldwork

Supplementary fieldwork was undertaken comprising a site inspection following the initial UCA investigation due to the extended period between DA approvals. The inspection was undertaken on the southern portion of Lot 522 DP1077907 by a geotechnical principal on 14th October 2021 assess the site for potential changes from the UCA [1]. Additional soil sampling was undertaken to assess the contamination status of the stockpile.

7.2 Laboratory Testing

7.2.1 Previous Laboratory Testing

Laboratory testing undertaken on selected samples recovered during the initial UCA [1] fieldwork comprised:

- > Ten (10) soil contamination tests (including duplicate and triplicate QA samples). The samples were analysed for eight metals (As, Cd, Cr, Cu, Pb, Hg, Ni & Zn), organochlorine pesticides (OCPs) and organophosphate pesticides (OPPs), Total Recoverable Hydrocarbons (TRH), BTEXN (Benzene, Toluene, Ethyl-benzene, Xylenes and Naphthalene), Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Compounds (VOC) and Polychlorinated Biphenyls (PCB).
- > One (1) asbestos ID and one (1) asbestos fibre detections.

7.2.2 Subsequent Laboratory Testing

Additional sampling was undertaken during the subsequent inspection on the 14th October 2021 on the stockpile noted at the site following the inspection. Laboratory testing comprised:

- > Four (4) soil contamination tests (including one duplicate QA sample). The samples were analysed for eight metals (As, Cd, Cr, Cu, Pb, Hg, Ni & Zn), organochlorine pesticides (OCPs) and organophosphate pesticides (OPPs), Total Recoverable Hydrocarbons (TRH), BTEX (Benzene, Toluene, Ethyl-benzene, Xylenes and Naphthalene), Polycyclic Aromatic Hydrocarbons (PAH), and Polychlorinated Biphenyls (PCB).

Laboratory analysis and testing was carried out on soil samples by NATA accredited laboratories.

Results of laboratory testing are in the laboratory reports attached in Appendix D.

7.3 Sampling Methodology

Environmental sampling was performed according to Cardno standard operating procedures with sampling data recorded on Chain of Custody sheets. Eight discrete soil samples from targeted locations were collected at variable depths across the site along with QA laboratory duplicate and triplicate samples. In addition, laboratory prepared trip blank and trip spike samples were held accompanying the field samples during the investigation. The methodology utilised is as follows:

- > The use and changing of disposable gloves between each sampling event to prevent cross contamination;
- > A Photo Ionisation Detector (PID) was used to screen each sample gathered from the UCA investigation with the readings recorded on engineering logs;
- > Decontamination of all sampling equipment using a 3% solution of phosphate free detergent (Decon 90) and tap water prior to each pit/bore;
- > Soil sample storage for all sampling events was via appropriate containers supplied by laboratories;
- > Sufficient samples with zero headspace into laboratory prepared sampling jars with the sample details added to the label on the jar.
- > Collection of a blind duplicate sample for quality assurance and control (QA/QC) at a rate of 1 per 20 samples collected.
- > Samples were sent to the laboratory within recommended holding times.
- > The sample jars were preserved in a chilled esky containing ice immediately after sampling and during transport to the laboratories. The laboratory chain of custody documentation was completed and accompanied the samples during shipment.

The majority of the samples were collected at the intrusive testing locations with the sample IDs representing the test pit locations. A plan showing the location of each environmental sample is attached as Figure 1 in Appendix A.

7.4 Quality Control / Quality Assurance

A critical aspect of site investigation is the demonstration of the quality of the data used as the basis for the assessment. This is achieved through a Data Validation process, which includes a review of the following aspects of the data collection process:

- > Project Quality Objectives and Plans.
- > Data Representativeness.
- > Data Precision and Accuracy.
- > Laboratory Performance.
- > Data Comparability.
- > Data Set Completeness.

Primary and QA samples were sent to NATA accredited laboratories for analysis and are identified in the table below.

Table 7-1 QA Sampling Schedule

Primary Sample ID	Duplicate ID	Triplicate ID
TB009-1	QA1	QA2
ES3	DUP1	-

Laboratory replicates are generated by subjecting a separate aliquot of sample through the same preparation and analysis procedures as the primary sample. Comparison of the primary sample to the duplicate and triplicate sample will yield a precision measurement (expressed as RPD) in a given matrix.

The laboratory acceptance criteria for duplicate samples are as follows:

- > Results less than 5 times LOR preclude acceptance criteria for RPD; and,
- > If results are greater than 5 times the PQL, an RPD of 0-50% is acceptable.

8 Areas and Contaminates of Potential Concern

The assessment has identified several potential sources of contamination (and related Contaminants of Potential Concern – COPC), which are summarised in the Table 8-1 below.

Table 8-1 Site Activities and Potential Contaminates of Concern

Area of Environmental Concern (AoEC)	Observation Identification Number (OIN) ⁽¹⁾	Site Activity / Potential Source	Contaminates of Potential Concern (CoPC)	Comments
Previous Earthworks	OIN 3	<ul style="list-style-type: none"> Potential cut and fill operations for levelling. 	<ul style="list-style-type: none"> 8 Heavy Metals PAH, TRH BTEXN OCP/OPP Asbestos 	<ul style="list-style-type: none"> Uncontrolled fill material noted most likely associated with levelling with building footprints. Potential imported fill.
Machinery Use	-	<ul style="list-style-type: none"> Farming Use Installation of service utility 	<ul style="list-style-type: none"> 8 Heavy Metals PAH,TRH BTEXN 	<ul style="list-style-type: none"> Potential machinery use on Site.
Buildings / Sheds	OIN 4 & 5	<ul style="list-style-type: none"> Potential hazardous building materials and storage of chemicals 	<ul style="list-style-type: none"> ACM (asbestos containing materials) and lead paint. Potential storage of pesticides, chemicals & fuels. metals 	<ul style="list-style-type: none"> Age of the structures indicate that ACM may have been used in construction materials.
Grass Pasture / Potential Cropping	-	<ul style="list-style-type: none"> Farming activities 	<ul style="list-style-type: none"> OCP/OPP and metals 	<ul style="list-style-type: none"> Potential use of pesticides.
Household Refuse	OIN 7 & 9	<ul style="list-style-type: none"> Existing Land Use 	<ul style="list-style-type: none"> Aesthetic 	<ul style="list-style-type: none"> Household refuse and dumping of garden waste along the boundary of the site with existing residential developments along Central Coast Hwy. Household refuse items along the drainage channel such as bicycle and bike rim and tyre.
Stockpiles	OIN 1, 2, 6, 8, 10	<ul style="list-style-type: none"> Potential imported fill Dumped Material 	<ul style="list-style-type: none"> Metals, PAH, TRH, BTEXN OCP/OPP Anthropogenic materials Asbestos 	<ul style="list-style-type: none"> Stockpiles of unknown material noted onsite. Additional stockpiles noted in the southern portion of Lot 522 DP1077907.

Notes:

1. Observation location shown on Figure 2 in Appendix A.

9 Investigation Findings

9.1 Analytical Tables

Chemical testing was carried out on soil samples by a National Association of Testing Authorities, Australia (NATA) accredited laboratory.

All testing was undertaken within the terms of their accreditation. Copies of the laboratory analytical reports are shown in Appendix D. The results of laboratory analysis for inorganic and organic contaminants in the soil samples are summarised in the analytical comparison tables attached in Appendix D.

9.2 Surface and Subsurface Conditions

The subsurface conditions encountered within the test bores during the UCA [1] are detailed on the attached test bore/pit logs attached in Appendix C together with explanatory notes. Test bore and sample locations are shown on Figure 1 in Appendix A.

The subsurface profile encountered within the test bores generally comprised of the following:

UNIT T - TOPSOIL

- > Generally comprising Silty SAND, encountered from the surface to 0.2 m BGL.
- > Topsoil was also encountered below site filling at TB009 and TB011 at 0.25-0.8 m BGL.
- > Topsoils were generally dry to moist.

UNIT F – FILL

- > Filling generally comprised Silty CLAY, Gravelly SAND and Silty SAND, encountered in TB003, TB005, and TB009 at depths ranging from 0-0.5 m BGL. Filling was noted as dry to moist at the time of investigation.
- > Deeper filling was observed in TB005 where drilling was targeted within an identified fill platform (OI No.02 Table 3-1).
- > Filling was generally associated with levelling works for building pads with isolated stockpiles noted onsite.

UNIT A – ALLUVIUM

- > Alluvium soils generally comprised Silty CLAY, Sandy/Clayey SILT, and Silty SAND in all test bores at depths ranging from 0.1-0.8 m BGL. Clays were generally of stiff consistency with medium dense sands encountered in TP008. Alluvium soils were moist at the time of investigation.

UNIT R – RESIDUAL

- > Residual soils generally comprising Silty CLAY encountered in all test bores at depths from 0.2->2.2 m BGL. Residual clays ranged from firm to hard with moisture ranging from above to below standard optimum moisture content.

UNIT EWM – EXTREMELY WEATHERED MATERIAL

- > Extremely weathered SILTSTONE was encountered in TB007 and TB010 drilled along the eastern boundary of the Site, encountered from 1.9 m to investigation limits of 2.2 m BGL. No drill bit refusal was encountered during the investigation. Siltstone was noted to be of extremely low strength and extremely weathered.

Slight seepage was encountered at TB003 drilled within the vicinity of the formed drainage channel with no seepage of groundwater encountered within the remaining test bores. The groundwater table is expected to follow the are topography and flow north/north-westerly towards the lower lying areas and Forresters Creek catchment areas, it should be noted that groundwater levels are likely to fluctuate with variations in climatic and site conditions.

For details of the subsurface conditions encountered, reference should be made to the engineering logs of test bores attached in Appendix C, together with explanatory notes.

9.3 Chemical Testing

A summary of the chemical testing undertaken is provided below.

9.3.1 Heavy Metals

Appraisal of the results indicates that concentrations of metals within the samples tested were below the thresholds for Residential A Health guidelines (HIL A) as detailed in National Environment Protection Measure (NEPM) for the Assessment of Site Contamination, 1999 [3].

Minor exceedances of the Ecological Investigation Limits (EIL) for Urban Residential/Public Open Space thresholds were noted within the surficial fill/topsoil medium for Zinc. The EIL criteria adopted are notoriously conservative with all values below 250% of the adopted criteria. This coupled with the observation that the area in the test bore sampling locations was supporting verdant pasture, it is considered that the measured levels are not detrimental to flora and fauna, and are potentially reflective of background levels.

9.3.2 Total Recoverable Hydrocarbons (TRH)

Results for TRH's were below the threshold limits as detailed in the National Environment Protection Measure for the Assessment of Site Contamination, 1999 [3] for Urban Residential landuse, Public Open Space Land-Use (HSL A &B) and (ESLs).

9.3.3 Benzene Toluene Ethylbenzene Xylenes and Naphthalene (BTEXN)

All results for BTEXN were below the Limit of Reporting (LOR) concentrations for each sample and all samples were below the threshold limits as detailed in the National Environment Protection Measure for the Assessment of Site Contamination, 1999 [3] for Urban Residential landuse, Public Open Space Land-Use (HSL A &B) and (ESLs).

9.3.4 Polycyclic Aromatic Hydrocarbon (PAH)

Results for PAH's were below the LOR for each sample and below the threshold limits as detailed in the National Environment Protection Measure for the Assessment of Site Contamination, 1999 [3] for Urban Residential landuse, Public Open Space Land-Use (HSL A &B) and (ESLs).

9.3.5 Organophosphorus & Organochlorine Pesticides (OPP/OCP) & Polychlorinated Biphenyls (PCB)

Results for OPP/OCC and PCB were below the threshold limits as detailed in the National Environment Protection Measure for the Assessment of Site Contamination, 1999 [3] for Urban Residential landuse, Public Open Space Land-Use (HSL A &B) and (ESLs).

9.3.6 Asbestos

The result of analysis for sample AS-1 obtained from the fibrous material used in the Cementous sheets used in the abandoned residential dwelling and adjacent shed/garage (OI No. 4Table 3-1) for asbestos ID was positive and indicated that the sample contains Chrysotile Asbestos.

The sample obtained from the disturbed areas at the location the former residential structure (AS-2) was tested for detection of Fibrous asbestos (FA) and asbestos fines (AF) and asbestos containing material (ACM). The analysis results indicated that the sample did not contain ACM fragments but contained 0.001 %w/w of AF/FA (<7mm).

9.4 Quality Assurance / Quality Control

A duplicate sample QA1 and triplicate sample QA2 were prepared from TB009-1 with the analysis of TPH, BTEX, PAH, OC, OP and 8 heavy metals undertaken on the both quality assurance samples. The duplicate sample were analysed by SGS environmental and the QA2 triplicate sample sent to Envirolab laboratories. Additional QA sampling was undertaken in the latest inspection with duplicate of ES3 taken, labelled Dup1.

$$RPD\% = \frac{[Cp - Cd]}{Cp + Cd} \times 200$$

Where:

Cp = Primary Sample

Cd = QA Sample

Results of the RPD calculations are shown in Table 9-1 below.

Table 9-1 Summary of Analytical Results Quality Assurance Results (mg/kg)

Analyte	RPD (%)			
	QA1 & TB009-1	QA2 & TB009-1	QA1 & QA2	ES3 & Dup1
Arsenic	0	29 ⁽¹⁾	29 ⁽¹⁾	64
Cadmium	0	29 ⁽¹⁾	29 ⁽¹⁾	ND
Chromium	3	23	26	55
Copper	6	40	46	13
Lead	0	0	0	55
Mercury	0	164 ⁽¹⁾	164 ⁽¹⁾	ND
Nickel	0	22 ⁽¹⁾	22 ⁽¹⁾	ND
Zinc	0	2	2	27
TPH, BTEX, PAH, OCP, OPP & PCB	ND	ND	ND	ND
pH	-	-	-	6
EC	-	-	-	4

Notes:

ND: Not Detected (Under Limit of Reporting)

1. Disagreement in results due to different limit of reporting.

The Relative Percentage of Difference (RPD) values between the primary and duplicate samples laboratory analysis results were calculated. According to Table 9-1, a maximum RPD value of 64% was calculated based on the obtained results for heavy metals. RPD value of 164% has been calculated for Mercury as the two laboratories have different Limit of Reporting (LOR) for this analysis. It should be noted elevated PRD values are common where concentrations of analytes are close to the detection limit. The RPD values for TPH, BTEX, PAH, OC and OP could not be calculated as the concentrations were below the laboratory limits of reporting.

All RPD values were generally within the acceptance criteria. The chosen analytical laboratory undertook internal QA/QC procedures, which include the analysis of method blanks, internal duplicate samples, laboratory control samples, matrix spikes and surrogate recovery. Additional laboratory QA/QC procedures include sample receipt, logging, storage, preservation and analysis within the method specified holding time.

It was considered that the field and laboratory QA/QC criteria were within acceptable limits indicating field sampling, storage, handling and decontamination procedures and laboratory preparation and analysis procedures were adequate for the purposes of the environmental investigation. Therefore, the data set used as the basis for the soil assessment is considered valid and complete.

10 Conceptual Site Model

10.1 Preliminary Conceptual Model

Generally, a conceptual site model (CSM) provides an assessment of the fate and transport of COPCs relative to site-specific subsurface conditions with regard to their potential risk to human health and the environment. The CSM considers site-specific factors including:

- > Source(s) of contamination;
- > Identification of contaminants of potential concern (COPCs) associated with past (and present) source(s);
- > Vertical, lateral and temporal distribution of COPCs;
- > Site specific lithological information including soil type(s), depth to groundwater, effective porosity, and groundwater flow velocity; and
- > Actual or potential receptors considering both current and future land use for both the site and adjacent properties, and any sensitive ecological receptors.

Based on the information sourced in this report, a preliminary CSM has been developed and is outlined in **Table 10-1** below. Additional details are included in the sections that follow as necessary.

Table 10-1 Preliminary Conceptual Site Model

Conceptual Site Model Element	Description
Site History	<ul style="list-style-type: none"> ▪ Rural residential development with potential farming activities.
Site Current and Future Use	<ul style="list-style-type: none"> ▪ Existing residential land use. ▪ Proposed to be developed into a residential development.
Site Geology	<ul style="list-style-type: none"> ▪ Intrusive investigation was undertaken as part of the UCA [1]. Based on Site conditions, published data and previous geotechnical investigations, the subsurface conditions can be generally summarised as natural with components of isolated filling throughout the sites, typically comprising sand and clay materials.
Site Hydrogeology	<ul style="list-style-type: none"> ▪ Slight seepage was encountered at TB003 drilled within the vicinity of the formed drainage channel with no seepage of groundwater encountered within the remaining test bores.
Contaminates of Potential Concern (POPC) - Onsite	<ul style="list-style-type: none"> ▪ Isolated filling and asbestos containing materials associated with demolition activities.
Media Potentially Impacted	<ul style="list-style-type: none"> ▪ No impacted media identified.
Potential Human Receptors	<ul style="list-style-type: none"> ▪ Site users / workers / employees (onsite) ▪ Site Construction workers (onsite) ▪ Local residents and surrounding properties (offsite)
Potential Environmental Receptors	<ul style="list-style-type: none"> ▪ Flora and fauna. ▪ Surrounding soils.
Potential Exposure Pathways	<ul style="list-style-type: none"> ▪ Air – inhalation of dusts. ▪ Soil – dermal / direct contact. ▪ Lateral migration via surficial runoff

10.2 Data Gaps

Based on the inspection, the potential for contamination at this site is not considered to present a significant constraint on the proposed redevelopment of subject site. However, it must be appreciated that assessment was limited to accessible soils (test bore locations) during geotechnical investigation within the subject Site and limited intrusive sampling or laboratory analysis was undertaken.

The following data gaps and uncertainties regarding the assessment are detailed below:

- > Limited intrusive sampling spatially and vertically.
- > No groundwater samples collected however; groundwater contamination is considered unlikely.
- > No dangerous goods search was undertaken for the site.

11 Conclusion

Cardno has completed a Preliminary Site Investigation of the proposed Bakali Road, Forresters Beach subdivision. The objectives of the investigation were to assess:

- > The potential for the past and present activities undertaken on and adjacent to the site to have affected soil at the Site.
- > The need for any further assessment or remedial works before definitive conclusions could be made on the suitability of the site for use.

Results from laboratory testing indicate there were no exceedances of the Health Investigation thresholds (HIL A) for the analytes tested as detailed in NEPM 1999 [3].

Minor exceedances of the Ecological Investigation (EIL) thresholds were noted within the topsoil/fill medium. Given the area in the sampling locations was supporting verdant pasture, it is considered that the measured levels are not detrimental to flora and fauna, and are potentially reflective of background levels. Based on this, the EIL exceedances would not warrant any further investigation or remediation.

Site inspections have identified potentially asbestos containing material (ACM) within footprints of previous structures. Appropriate demolition practices will need to be enacted by the demolition contractor so that the materials are removed in accordance with work cover practices.

Based on the review of the Site history, geotechnical works and Site inspection, Cardno identified no past or current, potentially gross contaminating activities having been undertaken on or adjacent to the Site.

Given the results of this assessment, Cardno recommends the following:

- > An unexpected finds protocol should be developed to address any potential contamination during construction phase.
 - If potential contamination is encountered, Site works will be ceased and suitable environmental consultant will be engaged for assessment.

The Site is considered low risk of potential contamination based on the review of Site history, geotechnical works, investigation findings and the identified data gap.

In accordance with the State Environmental Planning Policy No 55 - Remediation of Land (SEPP 55) [6], which requires the planning authority to consider whether the Site is suitable for the proposed usage prior to approving and determining a development application, Cardno has undertaken a Preliminary Site Investigation (PSI). Based on the findings of the PSI, Cardno did not identify contamination or potentially contaminating activities previously undertaken on Site that would render the site unsuitable for its proposed use.

12 Standard of Assessment Limitations

This investigation has been undertaken in general accordance with the current “industry standards” for a site investigation for the purpose, objectives and scope identified in this report. These standards are set out in:

- > National Environment Protection Council (NEPC) (1999) *National Environment Protection (Assessment of Site Contamination) Measure*, as amended (registered on 15 May 2013) [3]. This is referred to from here on as “the NEPM” or “NEPM”.
- > Standards Australia (2005) *AS4482.1- 2005: Guide to the investigation and sampling of sites with potentially contaminated soil Part 1: Non-volatile and semi-volatile compounds*. [7].
- > NSW EPA “*Guidelines for Consultants Reporting on Contaminated Sites*” [8].

The agreed scope of this investigation has been limited for the current purposes of the Client. The investigation may not identify contamination occurring in all areas of the site, or occurring after sampling was conducted. Subsurface conditions may vary considerably away from the sample locations where information has been obtained.

This site investigation report is not any of the following:

- > An Environmental Audit Report as defined under NSW Site Auditor Scheme [9].
- > A detailed site investigation (DSI) report sufficient for an Environmental Auditor to be able to conclude a statutory or non-statutory environmental audit.
- > A geotechnical report, and the bore logs or test pit logs may not be sufficient as the basis for geotechnical advice.
- > A detailed hydrogeological assessment or an assessment of groundwater contaminants potentially arising from other sites or sources nearby.
- > A waste classification report of soil analytical results from the Site.

13 References

- [1] Cardno (NSW/ACT) Pty Ltd, “Urban Capability Assessment – Proposed Residential Development, Bakali Road, Forresters Beach (80514013-002.1),” December 2020.
- [2] NSW EPA, ““Consultants reporting on contaminated land guidelines”,” NSW Environmental Protection Authority, 2020.
- [3] National Environment Protection (Assessment of Site Contamination) Measure 1999, “Schedule B1 Guidelines on Investigation Levels For Soil and Groundwater,” National Environment Protection Council (NEPC), 16 May 2013.
- [4] NSW Department of Planning, Industry & Environment, “MinView,” 2019. [Online]. Available: <https://minview.geoscience.nsw.gov.au/>. [Accessed August 2020].
- [5] NSW Government, “Lake Macquarie Local Environmental Plan - Acid Sulfate Soils Risk map,” 2014.
- [6] NSW Government, “State Environmental Planning Policy No 55 - Remediation of Land (SEPP 55),” 1998.
- [7] Standards Australia, “Australian Standard - Guide to the investigation and sampling of sites with potentially contaminated soils - Part one: Non-volatile and semi-volatile compounds,” Standards Australia, 2005.
- [8] NSW EPA, ““Contaminated Sites: Guidelines for Consults on Contaminated Sites,” NSW Environmental Protection Authority, 1997.
- [9] NSW DEC, “Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (3rd Edition),” Department of Environment and Conservation NSW, 2017.
- [10] Cardno (NSW/ACT) Pty Ltd, “Preliminary Site Investigation Review – Bakali Road, Forresters Beach (80519020-003.1),” July 2021.

APPENDIX

A


FIGURES

DATE PLOTTED: 12 November 2021 5:24 PM BY: KOSTAS ANDREAS SYKIOTIS

NOTES:

Image underlay adapted from Metromaps aerial imagery.

LEGEND:

 TBXXX Approximate test bore locations and numbers.



NORTH

XREFS: CAD File: NYF22044 - Forresters Beach PP PSU Date: 10/22/2014 - Site Plans.dwg

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Tel: 02 4965 4555 Fax: 02 4965 4666
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Drawn	KS	Date	12/11/2021
Checked	IGP	Date	12/11/2021
Designed		Date	
Verified		Date	
Approved		Date	

Client	Wathara NSW Pty Ltd
Project	Preliminary Site Investigation Residential Subdivision Bakali Road, Forresters Beach NSW
Title	Preliminary Site Investigation Test Bore Location Plan

Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Project Number	81022044	Scale	1:1750
Figure Number	Figure 1	Size	A3
Revision			A

DATE PLOTTED: 15 November 2021 8:03 AM BY: KOSTANDREAS SYKIOTIS

NOTES:
Image underlay adapted from Metromaps aerial imagery.

LEGEND:
XX Approximate observation locations and numbers.



Approximate Site Boundary



XREFS: CAD File: N:\FY22\044 - Forresters Beach PP PSU Data\InfoDrawings\81022044 - Site Plans.dwg

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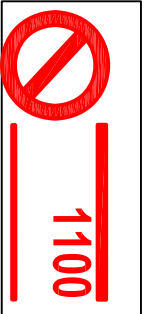
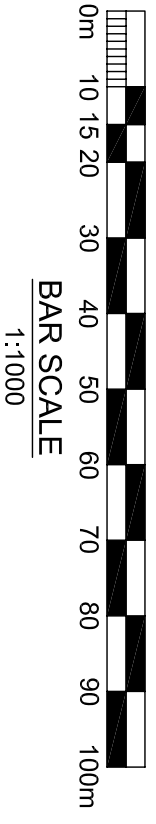
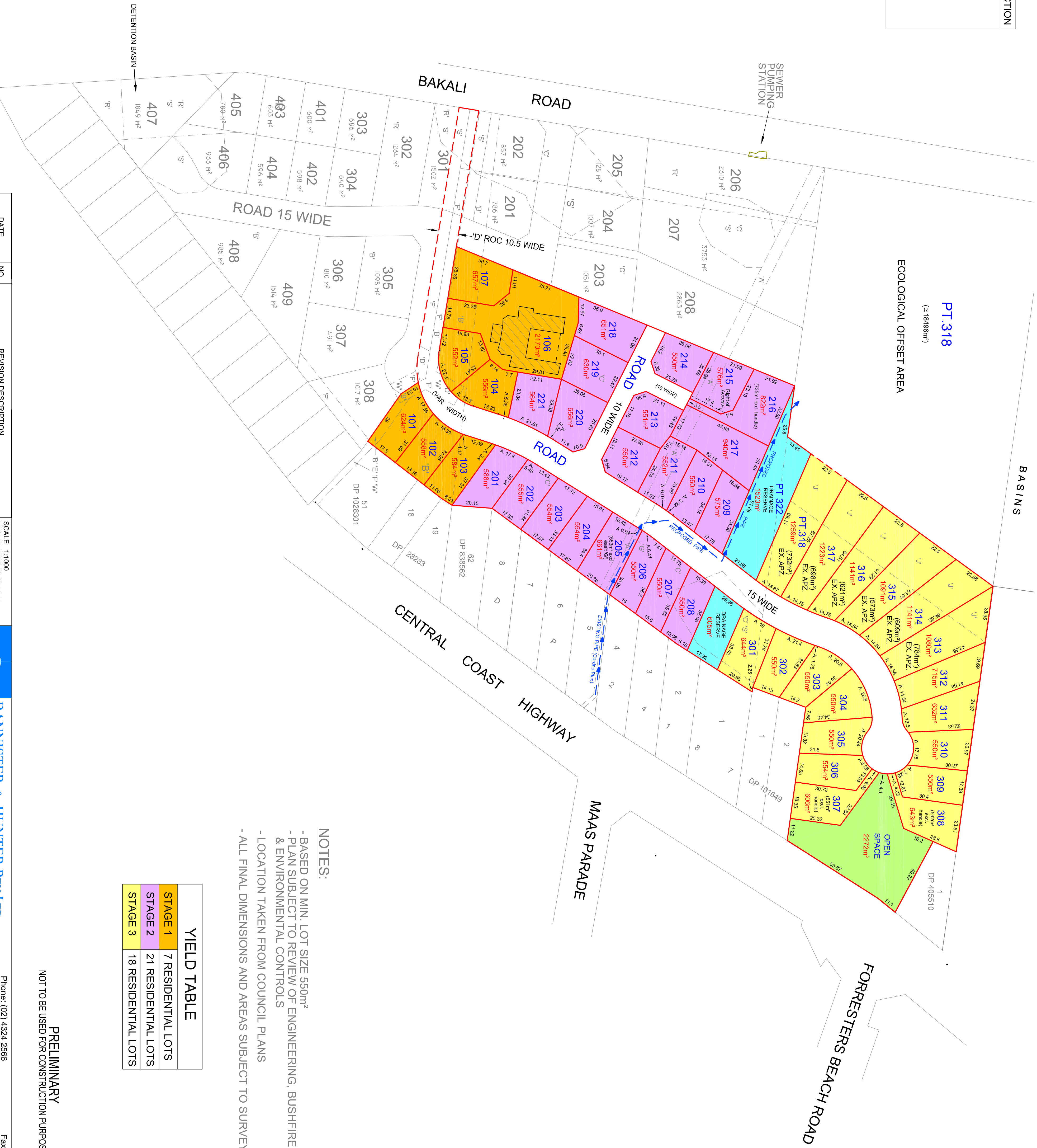
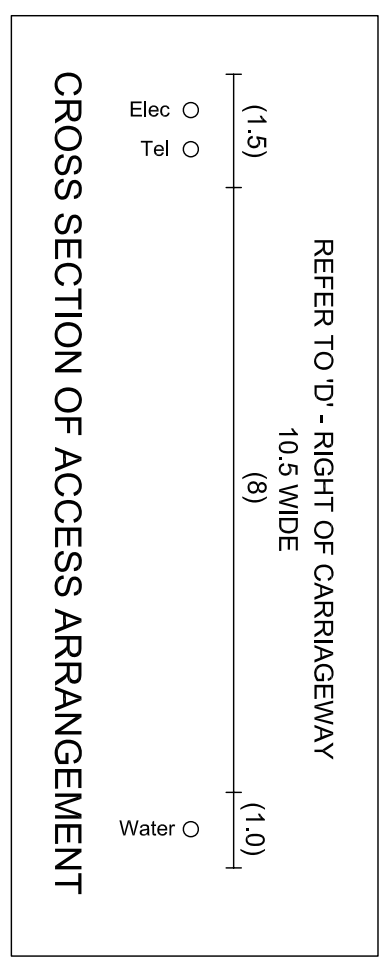
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Drawn	KS	Date	12/11/2021
Checked	IGP	Date	12/11/2021
Designed		Date	
Verified		Date	
Approved		Date	

Client	Wathara NSW Pty Ltd
Project	Preliminary Site Investigation Residential Subdivision Bakali Road, Forresters Beach NSW
Title	Preliminary Site Investigation Observation Identification Plan

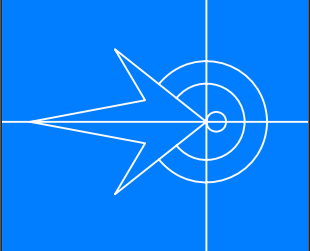
Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Project Number	81022044	Scale	1:1750
Figure Number	Figure 2	Size	A3
Revision			A

EASEMENTS & RESTRICTIONS	PROPOSED ACTION
A - EASEMENT TO DRAIN WATER 6 WIDE WIDE DP 620403 - WIDE T 732471	EXTINGUISH
B - COVENANT A 654456	EXTINGUISH
C - COVENANT C 101804	CREATE
D - RIGHT OF CARRIAGEWAY 10.5 WIDE & VARIABLE WIDTH	EXTINGUISH
E - RIGHT OF FOOTWAY 3 WIDE & VARIABLE	EXTINGUISH
F - EASEMENT FOR SERVICES 3, 6, 10.5 & VARIABLE	EXTINGUISH
G - RESTRICTION ON USE OF LAND	EXTINGUISH
H - RESTRICTION ON THE USE OF LAND SIXTHLY REFERRED TO IN DP 1000694	EXTINGUISH
I - EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH	EXTINGUISH
J - PROPOSED EASEMENT FOR DRAINAGE 3 WIDE	CREATE



CAUTION
UNDERGROUND SERVICES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND CONTACTED PRIOR TO ANY WORKS BEING CONDUCTED ON THIS SITE

DATE	NO.	REVISION DESCRIPTION
23/08/2018	F	MINOR AMENDMENTS
12/09/2018	G	OPTION 2 - VPA
26/09/2018	H	AMEND LOT LAYOUT (Stage 3)
26/09/2018	J	AMEND LOT LAYOUT (Stage 3)

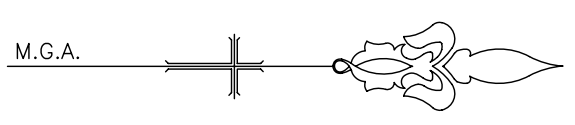


SCALE 1:1000 BASE DRAWING SIZE A1	BANNISTER & HUNTER PTY. LTD. 75 Mann Street, Gosford, N.S.W. 2250	Phone: (02) 4324 2566 Web: www.bannisterhunter.com.au Email: admin@bannisterhunter.com.au	Fax: (02) 4323 2495
SURVEYED BY: B & H DATE OF SURVEY: 11/08/2014	Client: TERRIGAL GROSVENOR LODGE PROPOSED SUBDIVISION OF LOT 4 DP 1000694, LOT 622 DP 1077907 & LOT 3 DP 101649 AT FORESTERS BEACH	Ref. No: 58463 Ccad Ref: 58463 Acad Ref: 58463-12s	Date: 25th September, 2018
DRAWN BY: P.R./S.D. DATE: 25/09/2018		Delim: N/A	
CHECKED BY: P.B. DATE: 25/09/2018		SHEET No: 1 of 1	Revision: J

NOTES:
- BASED ON MIN. LOT SIZE 550m²
- PLAN SUBJECT TO REVIEW OF ENGINEERING, BUSHFIRE & ENVIRONMENTAL CONTROLS
- LOCATION TAKEN FROM COUNCIL PLANS
- ALL FINAL DIMENSIONS AND AREAS SUBJECT TO SURVEY

YIELD TABLE	
STAGE 1	7 RESIDENTIAL LOTS
STAGE 2	21 RESIDENTIAL LOTS
STAGE 3	18 RESIDENTIAL LOTS

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES



APPENDIX

B

REVIEW DATA

GROUNDWATER DATA

NSW Office of Water

Work Summary

GW202283

Licence: 20BL172870

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE

Intended Purpose(s): MONITORING BORE

Work Type: Bore

Work Status: Equipped

Construct.Method:

Owner Type: Local Govt

Commenced Date:

Completion Date: 25/06/2012

Final Depth: 8.00 m

Drilled Depth: 10.50 m

Contractor Name: NEALINGS DRILLING

Driller: Unkown Unknown

Assistant Driller:

Property: N A 140 BELLEVUE ROAD TUMBI UMBI
2261 NSW

Standing Water Level: 6.000

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County
Form A: NORTH
Licensed:

Parish
NORTH.31

Cadastre
11A/8857

Region: 20 - Hunter

CMA Map: 9131-2S

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

Grid Zone:

Scale:

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

Northing: 6303332.0
Easting: 356452.0

Latitude: 33°23'59.1"S
Longitude: 151°27'23.1"E

GS Map: -

MGA Zone: 0

Coordinate Source: GIS - Geographic
Information System

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	10.50	0			(Unknown)
1		Annulus	Concrete	0.00	0.05		50		
1		Annulus	Bentonite	0.05	0.50		50		
1		Annulus	Waterworn/Rounded	0.50	8.00		50		Graded
1		Backfill	Bentonite	8.00	10.50				
1	1	Casing		0.00	8.00	50			Seated
1	1	Opening	Slots	1.00	8.00	50		1	

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
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Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	7.20	7.20	Fill; Sandy Silt, medium, grey to black, high organic content	Fill	
7.20	10.50	3.30	Sandy Clay; medium, subrounded, low plasticity, red mottled white, natural	Sandy Clay	

Remarks

25/06/2012: Form A Remarks:

Nat Carling, 25-June-2012; All details were provided by consultant on logs & location map.

*** End of GW202283 ***

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

NSW Office of Water

Work Summary

GW201721

Licence: 20BL172870

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore

Work Status: Equipped

Construct.Method: Auger - Solid Flight

Owner Type: Local Govt

Commenced Date:

Completion Date: 16/04/2009

Final Depth: 15.00 m

Drilled Depth: 15.00 m

Contractor Name:

Driller: Unkown Unknown

Assistant Driller:

Property: N A 140 BELLEVUE ROAD TUMBI UMBI
2261 NSW

Standing Water Level: 9.100

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County
Form A: NORTH
Licensed:

Parish
NORTH.31

Cadastre
11A/8857

Region: 20 - Hunter

CMA Map: 9131-2S

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

Grid Zone:

Scale:

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

Northing: 6303240.0
Easting: 356411.0

Latitude: 33°24'02.0"S
Longitude: 151°27'21.5"E

GS Map: -

MGA Zone: 0

Coordinate Source: GPS - Global Positioning System

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	15.00	100			Auger - Solid Flight
1		Annulus	Drill Cuttings	0.00	11.00	100	50		PL:Pourred/Shovelled
1		Annulus	Bentonite	11.00	11.50	100	50		PL:Pourred/Shovelled
1		Annulus	Waterworn/Rounded	11.50	15.00	100	50		Graded, PL:Pourred/Shovelled
1	1	Casing		0.00	15.00	50			Seated on Bottom
1	1	Opening	Slots	12.00	15.00	50		1	()

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
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Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Fill; brown, sandy topsoil, with rock fragments (200mm)	Fill	
1.00	2.25	1.25	Silty Clay; red/light grey	Silty Clay	
2.25	5.25	3.00	Silty Clay; red/light grey, increasing moisture	Silty Clay	
5.25	7.25	2.00	Silty Clay; light grey, with ironstone fragments	Silty Clay	
7.25	8.25	1.00	Silty Clay; red/light grey, slightly increasing moisture	Silty Clay	
8.25	15.00	6.75	Silty Clay; reddish brown, medium moisture	Silty Clay	

Remarks

16/04/2009: Form A Remarks:

Nat Carling, 3-May-2012; All details were provided on consultants log.

***** End of GW201721 *****

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

NSW Office of Water

Work Summary

GW054153

Licence: 20BL113627

Licence Status: ACTIVE

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

Work Type: Bore open thru rock

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 01/02/1981

Final Depth: 18.00 m

Drilled Depth: 18.00 m

Contractor Name:

Driller:

Assistant Driller:

Property: N/A

GWMA: -

GW Zone: -

Standing Water Level (m):

Salinity Description: Good

Yield (L/s):

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: NORTH	NORTH.031	L3 DP26237 (8)
Licensed: NORTHUMBERLAND	KINCUMBER	Whole Lot 3//26237

Region: 10 - Sydney South Coast

CMA Map: 9131-2S

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

Grid Zone:

Scale:

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

Northing: 6303359.0
Easting: 356736.0

Latitude: 33°23'58.3"S
Longitude: 151°27'34.1"E

GS Map: -

MGA Zone: 0

Coordinate Source:

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1	1	Casing	P.V.C.	0.00	12.00	155			Driven into Hole

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
12.00	14.00	2.00	(Unknown)	5.70		0.48			

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.00	2.00	Soil	Soil	
2.00	12.00	10.00	Clay	Clay	
12.00	18.00	6.00	Sandstone Shale Water Supply	Sandstone	

Remarks

*** End of GW054153 ***

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

NSW Office of Water

Work Summary

GW201938

Licence: 20BL170953

Licence Status: ACTIVE

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

Work Type: Bore

Work Status: Supply Obtained

Construct.Method: Rotary Mud

Owner Type: Private

Commenced Date:

Completion Date: 22/03/2007

Final Depth: 18.00 m

Drilled Depth: 18.00 m

Contractor Name:

Driller: Lloyd Norman Whitsed

Assistant Driller:

Property:

GWMA:

GW Zone:

Standing Water Level: 8.000

Salinity:

Yield: 0.250

Site Details

Site Chosen By:

County
Form A: NORTH
Licensed:

Parish
 NORTH.31

Cadastre
 255//225178

Region: 20 - Hunter

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

CMA Map: 9131-2S

Grid Zone:

Scale:

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

Northing: 6302010.0
Easting: 357145.0

Latitude: 33°24'42.3"S
Longitude: 151°27'49.2"E

GS Map: -

MGA Zone: 0

Coordinate Source: GIS - Geographic

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	18.00	175			Rotary Mud
1		Annulus	Waterworn/Rounded	3.00	18.00	175	125		Graded
1	1	Casing	Pvc Class 9	0.00	18.00	125			Seated on Bottom, Glued
1	1	Opening	Slots - Vertical	11.00	17.00	125		1	PVC Class 9, SL: 6.0mm, A: 1.50mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
9.00	11.00	2.00	Unknown	8.00	17.00	0.25			

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	9.00	9.00	Sand	Sand	
9.00	10.00	1.00	Sand & organics - lost circulation - water cloudy	Sand	
10.00	14.00	4.00	Clay, heavy & Sand	Sand	
14.00	16.00	2.00	Clay, red	Clay	
16.00	18.00	2.00	Shale	Shale	

Remarks

22/03/2007: Form A Remarks:

Nat Carling, 15-May-2012; Coordinates based on location map provided with the Form-A.

*** End of GW201938 ***

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

NSW Office of Water

Work Summary

GW201720

Licence: 20BL172870

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Bore

Work Status: Equipped

Construct.Method: Auger - Solid Flight

Owner Type: Local Govt

Commenced Date:

Completion Date: 16/04/2009

Final Depth: 13.50 m

Drilled Depth: 13.50 m

Contractor Name:

Driller: Unkown Unknown

Assistant Driller:

Property: N A 140 BELLEVUE ROAD TUMBI UMBI
2261 NSW

Standing Water Level: 3.330

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County
Form A: NORTH
Licensed:

Parish
NORTH.31

Cadastre
1130//787305

Region: 20 - Hunter

CMA Map: 9131-2S

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

Grid Zone:

Scale:

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

Northing: 6303152.0
Easting: 356496.0

Latitude: 33°24'04.9"S
Longitude: 151°27'24.7"E

GS Map: -

MGA Zone: 0

Coordinate Source: GPS - Global Positioning System

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	13.50	100			Auger - Solid Flight
1		Annulus	Drill Cuttings	0.00	10.00	100	50		PL:Pouring/Shovelled
1		Annulus	Bentonite	10.00	10.50	100	50		PL:Pouring/Shovelled
1		Annulus	Waterworn/Rounded	10.50	13.50	100	50		Graded, PL:Pouring/Shovelled
1	1	Casing		0.00	13.50	50			Seated on Bottom
1	1	Opening	Slots	11.00	13.50	50		1	()

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
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Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	Fill; light brown sandy soil	Fill	
0.50	2.25	1.75	Clay; red/light grey, with ironstone fragments	Clay	
2.25	3.75	1.50	Silty Clay; red/grey, medium moisture	Silty Clay	
3.75	6.75	3.00	Silty Clay; red/light grey, increasing moisture	Silty Clay	
6.75	13.50	6.75	Silty Clay; reddish brown, high moisture	Silty Clay	

Remarks

16/04/2009: Form A Remarks:

Nat Carling, 3-May-2012; All details were provided on consultants log.

*** End of GW201720 ***

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NSW Office of Water

Work Summary

GW051860

Licence: 20BL110868

Licence Status: ACTIVE

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

Work Type: Bore

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 01/11/1979

Final Depth: 12.00 m

Drilled Depth: 21.00 m

Contractor Name:

Driller:

Assistant Driller:

Property: N/A

GWMA: -

GW Zone: -

Standing Water Level (m):

Salinity Description: Good

Yield (L/s):

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: NORTH	NORTH.031	L4 DP26237 (8)
Licensed: NORTHUMBERLAND	KINCUMBER	Whole Lot 4//26237

Region: 10 - Sydney South Coast

CMA Map: 9131-2S

River Basin: 211 - MACQUARIE - TUGGERAH LAKES
Area/District:

Grid Zone:

Scale:

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

Northing: 6303370.0
Easting: 356802.0

Latitude: 33°23'58.0"S
Longitude: 151°27'36.7"E

GS Map: -

MGA Zone: 0

Coordinate Source:

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Backfill	Backfill	12.00	21.00	155			
1	1	Casing	P.V.C.	0.00	12.00	125			
1	1	Opening	Slots - Vertical	6.00	12.00	125		1	Mechanically Slotted, A: 3.00mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
1.00	11.00	10.00	Unconsolidated	3.00		0.06			

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.00	1.00	Soil	Soil	
1.00	12.00	11.00	Clay Water Bearing	Clay	
12.00	21.00	9.00	Shale	Shale	

Remarks

*** End of GW051860 ***

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

HISTORICAL AERIAL PHOTOGRAPHS

1954 PHOTOGRAPH



N.S.W. 134 - 5003

GOSFORD RUN 96 16 5 54 LENS 157564 10" 11000' ↑

LANDSPHOTO





1965 PHOTOGRAPH

1979 PHOTOGRAPH





1986 PHOTOGRAPH





320596



2005 PHOTOGRAPH

Forresters Beach NSW

Maas Parade

Henry's Rd

The Entrance Rd

Image © 2015 DigitalGlobe



S149 CERTIFICATES



Gosford City Council

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ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140005
Certificate Date: 11 November 2015
Address: 985 The Entrance Road FORRESTERS BEACH
Lot Description: LOT: 3 DP: 101649

Parish: Kincumber
County: Northumberland
Assessment No: 515017

Receipt No:
Parcel No: 429
Applicants Reference: LOT: 3 DP: 101649
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and
- (b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The property is adjacent to a State Road under the control of Roads and Maritime Services (RMS) and may be affected by an existing road widening scheme.

Enquiries regarding this matter should in the first instance be directed to the RMS Hunter Regional Office Property Enquiries Officer on 49240240. Project or study specific information enquiries should be directed to the RMS's Central Coast Office on 4379 7001.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



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ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140004
Certificate Date: 11 November 2015
Address: 959 The Entrance Road FORRESTERS BEACH
Lot Description: LOT: 18 DP: 23283

Parish: Kincumber
County: Northumberland
Assessment No: 702662

Receipt No:
Parcel No: 17636
Applicants Reference: LOT: 18 DP: 23283
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and
- (b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The property is adjacent to a State Road under the control of Roads and Maritime Services (RMS) and may be affected by an existing road widening scheme.

Enquiries regarding this matter should in the first instance be directed to the RMS Hunter Regional Office Property Enquiries Officer on 49240240. Project or study specific information enquiries should be directed to the RMS's Central Coast Office on 4379 7001.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

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www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140002
Certificate Date: 11 November 2015
Address: 145 Bakali Road FORRESTERS BEACH
Lot Description: LOT: 1 DP: 1000694

Parish: Kincumber
County: Northumberland
Assessment No: 759977

Receipt No:
Parcel No: 83803
Applicants Reference: LOT: 1 DP: 1000694
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The land is not affected by Road Widening Proposals.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

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www.facebook.com/GosfordCityCouncil
www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140003
Certificate Date: 11 November 2015
Address: 957 The Entrance Road FORRESTERS BEACH
Lot Description: LOT: 51 DP: 1028301

Parish: Kincumber
County: Northumberland
Assessment No: 786260

Receipt No:
Parcel No: 86998
Applicants Reference: LOT: 51 DP: 1028301
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The property is adjacent to a State Road under the control of Roads and Maritime Services (RMS) and may be affected by an existing road widening scheme.

Enquiries regarding this matter should in the first instance be directed to the RMS Hunter Regional Office Property Enquiries Officer on 49240240. Project or study specific information enquiries should be directed to the RMS's Central Coast Office on 4379 7001.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS
(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

- (1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

- (2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

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www.gosford.nsw.gov.au
www.facebook.com/GosfordCityCouncil
www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140000
Certificate Date: 11 November 2015
Address: 137 Bakali Road FORRESTERS BEACH
Lot Description: LOT: 3 DP: 1000694

Parish: Kincumber
County: Northumberland
Assessment No: 759995

Receipt No:
Parcel No: 83805
Applicants Reference: LOT: 3 DP: 1000694
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

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State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

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State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The land is not affected by Road Widening Proposals.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

This land has been identified as containing Estuarine Paperbark Scrub Forest. This community may qualify as the endangered ecological community Swamp Sclerophyll Forest on Coastal Floodplains as listed under Part 3 Schedule 1 of the Threatened Species Conservation Act 1995. The presence of this vegetation community may restrict the development potential of the land. The nature and extent of any threatened species or cultural heritage constraints should be determined following an assessment of the land by a qualified and experienced ecologist/consultant.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

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www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 140001
Certificate Date: 11 November 2015
Address: 143 Bakali Road FORRESTERS BEACH
Lot Description: LOT: 2 DP: 1000694

Parish: Kincumber
County: Northumberland
Assessment No: 759986

Receipt No:

Parcel No: 83804
Applicants Reference: LOT: 2 DP: 1000694
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

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Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The land is not affected by Road Widening Proposals.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

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www.gosford.nsw.gov.au
www.facebook.com/GosfordCityCouncil
www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 139999
Certificate Date: 11 November 2015
Address: 139 Bakali Road FORRESTERS BEACH
Lot Description: LOT: 4 DP: 1000694

Parish: Kincumber
County: Northumberland
Assessment No: 760000

Receipt No:

Parcel No: 83806

Applicants Reference: LOT: 4 DP: 1000694

Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development)2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

- (a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

No.

- (f) whether the land includes or comprises critical habitat,

None

- (g) whether the land is in a conservation area (however described),

No.

- (h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The land is not affected by Road Widening Proposals.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.



Gosford City Council

Cardno NSW Pty Ltd - Gosford
Se34 207 Albany Street North
GOSFORD NSW 2250

PO Box 21
Gosford NSW 2250
DX 7211 Gosford
Telephone 02 4325 8222
Facsimile 02 4323 2477
goscity@gosford.nsw.gov.au
www.gosford.nsw.gov.au
www.facebook.com/GosfordCityCouncil
www.twitter.com/gosford_council
ABN 78 303 458 861

PLANNING CERTIFICATE

This Planning Certificate is issued in accordance with Section 149 of the *Environmental Planning and Assessment Act, 1979*

Certificate No: 139998
Certificate Date: 11 November 2015
Address: 987-991 The Entrance Road FORRESTERS BEACH
Lot Description: LOT: 522 DP: 1077907

Parish: Kincumber
County: Northumberland
Assessment No: 515008
Receipt No:
Parcel No: 91194
Applicants Reference: LOT: 522 DP: 1077907
Applicants Email:

Part 2 - Environmental Planning and Assessment Regulation 2000

1 NAMES OF RELEVANT PLANNING INSTRUMENTS and DCPS

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Interim Development Order 122 gazetted 30/03/79 (as amended)

Specific Site State Environmental Planning Policies

State Environmental Planning Policy No. 71 - Coastal Protection

General Site State Environmental Planning Policies

ZONE 7(a) CONSERVATION AND SCENIC PROTECTION
(CONSERVATION) UNDER INTERIM DEVELOPMENT ORDER NO.122

State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (Affordable Rental Housing) 2009

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

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007

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

State Environmental Planning Policy (Major Development) 2005

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

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

State Environmental Planning Policy No. 64 - Advertising and Signage

State Environmental Planning Policy No. 62 - Sustainable Aquaculture

State Environmental Planning Policy No. 55 - Remediation of Land

State Environmental Planning Policy No. 50 - Canal Estate Development

State Environmental Planning Policy No. 44 - Koala Habitat Protection

State Environmental Planning Policy No. 36 - Manufactured Home Estates

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development

State Environmental Planning Policy No. 30 - Intensive Agriculture

State Environmental Planning Policy No. 21 - Caravan Parks

State Environmental Planning Policy No. 19 - Bushland in Urban Areas

State Environmental Planning Policy No. 1 - Development Standards

State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

ZONE 7(c2) CONSERVATION AND SCENIC PROTECTION (SCENIC PROTECTION - RURAL SMALL HOLDINGS) UNDER INTERIM DEVELOPMENT ORDER NO.122
State Environmental Planning Policy (State and Regional Development) 2011
State Environmental Planning Policy (Affordable Rental Housing) 2009
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy (Infrastructure) 2007
State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy (Major Development)2005
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy No. 65 - Design Quality of Residential Flat Development
State Environmental Planning Policy No. 64 - Advertising and Signage
State Environmental Planning Policy No. 62 - Sustainable Aquaculture
State Environmental Planning Policy No. 55 - Remediation of Land
State Environmental Planning Policy No. 50 - Canal Estate Development
State Environmental Planning Policy No. 44 - Koala Habitat Protection
State Environmental Planning Policy No. 36 - Manufactured Home Estates
State Environmental Planning Policy No. 33 - Hazardous and Offensive Development
State Environmental Planning Policy No. 30 - Intensive Agriculture
State Environmental Planning Policy No. 21 - Caravan Parks
State Environmental Planning Policy No. 19 - Bushland in Urban Areas
State Environmental Planning Policy No. 1 - Development Standards
State Regional Planning Policy No. 9 - Extractive Industry (No 2-1995)

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.

Gosford Development Control Plan 2013

2 ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

(a) to (d) is the zoning of the land and the land use table for each of the zones listed, including existing and proposed Local Environmental Plans in landuse tables.

Zone No.7(a) Conservation and Scenic Protection (Conservation) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: agriculture; bed and breakfast accommodation; dams; dwelling-houses; roads;

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

Zone No.7(c2) Conservation and Scenic Protection (Scenic Protection-Rural Small Holdings) under Interim Development Order No.122

DEVELOPMENT PERMISSIBLE WITHOUT CONSENT

Development (other than exempt development) for the purpose of: agriculture; home occupations; recreation areas.

Exempt development.

DEVELOPMENT PERMISSIBLE WITH CONSENT

Development (other than exempt development) for the purpose of: animal establishments; bed and breakfast accommodation; child care centres; dams; dual occupancies-attached; dwelling-houses; educational establishments; home industries; horse establishments; places of public worship; plant nurseries; roads; roadside stalls; utility installations; veterinary hospitals.

Subdivision.

PROHIBITED DEVELOPMENT

Any purpose other than those permissible with or without consent.

- (e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land, if so, the minimum land dimensions so fixed,

7(a) Conservation & Scenic Protection (Conservation) under Interim Development Order No.122

Clause 22(1) of Interim Development Order No 122 requires that a dwelling house may only be erected on an allotment of land having an area of not less than 40 hectares.

Clause 22(2) of Interim Development Order No 122 requires where the erection of a dwelling house on an allotment of land having an area of less than 40 hectares that the allotment was;

(a) in existence before 18 February 1977 and was not held in the same ownership as any adjoining allotments at that date or

(b) created after 18 February 1977 otherwise than under 20.

Clause 22(3) to (5) of Interim Development Order No 122 requires where the erection of a dwelling house on an allotment of land having an area of less than 40 hectares and which was one of a number of adjoining allotments held in the same ownership as at the 18 February 1977 is subject to the provisions of Section 29 of the Environmental Planning and Assessment Act 1979.

(f) whether the land includes or comprises critical habitat,

None

(g) whether the land is in a conservation area (however described),

No.

(h) whether an item of environmental heritage (however described) is situated on the land.

No.

2A ZONING AND LAND USE UNDER SEPP (SYDNEY REGIONAL GROWTH CENTRES) 2006

Not applicable

3 COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Rural Housing Code

Complying development under the Rural Housing Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Housing Alterations Code

Complying development under the Housing Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

General Development Code

Complying development under the General Development Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Subdivision Code

Complying development under the Subdivision Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Demolition Code

Complying development under the Demolition Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Commercial and Industrial Alterations Code

Complying development under the Commercial and Industrial Alterations Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

Fire Safety Code

Complying development under the Fire Safety Code may be carried out on the land under Clauses 1.17A & 1.19. This information needs to be read in conjunction with the whole of the SEPP.

4 COASTAL PROTECTION

The Council has not been notified that by the relevant NSW Government Department that the land is affected by Sections 38 and 39 or Parts 4C, 4D of the Coastal Protection Act, 1979.

Further Council has not been notified that annual charges apply under 4B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

4A Information relating to beaches and coasts

- (1) whether an order has been made under part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

No.

- (2) (a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and
- (b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

None.

4B Annual Charges for coastal protection services under *Local Government Act 1993*

None

5 MINE SUBSIDENCE

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of The Mine Subsidence Compensation Act, 1961.

6 ROAD WIDENING AND ROAD RE-ALIGNMENT

Whether or not the land is affected by any road widening or road alignment.

The property is adjacent to a State Road under the control of Roads and Maritime Services (RMS) and may be affected by an existing road widening scheme.

Enquiries regarding this matter should in the first instance be directed to the RMS Hunter Regional Office Property Enquiries Officer on 49240240. Project or study specific information enquiries should be directed to the RMS's Central Coast Office on 4379 7001.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(No, unless a message is listed below)

Chapter 6.4 of Gosford Development Control Plan (Geotechnical Requirements) applies to the land and the land may be subject to slip. When considering a development application, each circumstance will be considered and development may be restricted.

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Is development on the land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling house or residential flat buildings (excluding group homes or seniors housing) subject to flood related development controls.

No.

Is development on the land or part of the land for any other purpose subject to flood related development controls.

No.

8 LAND RESERVED FOR ACQUISITION

No.

9 CONTRIBUTION PLANS

None.

9A BIODIVERSITY CERTIFIED LAND

Is the land biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*)?

No.

10 BIOBANKING AGREEMENTS

Is land to which a biobanking agreement under Part 7A of the *Threatened Special Conservation Act 1995* relates.

No.

11 BUSHFIRE PRONE LAND

All or part of the land is shown as bush fire prone on Council's records. Further details of any applicable restrictions on development of the land may be obtained from the Duty Building Surveyor on (02) 4325 8222.

12 PROPERTY VEGETATION PLANS

Has Council been notified by the person or body that approved the plan that the land is land to which a property vegetation plan under the *Native Vegetation Act 2003* applies?

No.

13 ORDERS UNDER TREES (DISPUTE BETWEEN NEIGHBOURS) ACT 2006

Has Council been notified that an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land?

No.

14 DIRECTIONS UNDER PART 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No.

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR SENIORS HOUSING

15(a) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (SENIORS HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies.

No.

15(b) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CLAUSE 18 (2) OF STATE ENVIRONMENTAL PLANNING POLICY (HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY) 2004 AFTER 11 OCTOBER 2007?

No.

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

No.

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

17(1) IS COUNCIL AWARE OF A CURRENT SITE COMPATIBILITY CERTIFICATE (AFFORDABLE RENTAL HOUSING) IN RESPECT OF PROPOSED DEVELOPMENT ON THE LAND?

No.

17(2) ARE THERE ANY CONDITIONS IMPOSED BY A CONSENT AUTHORITY IN TERMS OF CL 17 (1) OR 37 (1) OF STATE ENVIRONMENTAL PLANNING POLICY (AFFORDABLE RENTAL HOUSING) 2009?

No.

18 PAPER SUBDIVISION INFORMATION

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

None

(2) The date of any subdivision order that applies to the land.

Nil

19 SITE VERIFICATION CERTIFICATE

There is no current site verification certificate, of which the Council is aware in respect of the land.

Note

1 **CONTAMINATED LAND MANAGEMENT ACT 1997 NOTICES UNDER SECTION 59(2)**

- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No.

- (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No.

- (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No.

- (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No.

2 **NATION BUILDING AND JOB PLAN (STATE INFRASTRUCTURE DELIVERY) ACT 2009 EXEMPTION UNDER SECTION 23 OR AUTHORISATION UNDER SECTION 24 OF THE ACT.**

No.

The following additional information is issued under Section 149(5) of the *Environmental Planning and Assessment Act, 1979*

Council has fixed a foreshore building line on all lands fronting any harbour, bay, ocean, lake, estuary, lagoon or tidal river and creek.

If this land adjoins land or roads over which there is an easement for services to drain water, to drain sewage or where services, drainage, sewerage or other utilities have been installed and easements have not been created, foundations may be required such as will ensure the stability of any improvements on the subject land against any influence from use of the easement or installations over the adjoining land or roads.

Landscaping plans are required to accompany applications for each lot developed. The landscaping plan shall comprise predominantly native species indigenous to the local area. The landscaping plan shall be submitted to Council's Development Unit for approval prior to application approval. Where trees and scrubs are to be removed they shall be replaced at a ratio of 2:1.

This land has been identified as containing Estuarine Paperbark Scrub Forest. This community may qualify as the endangered ecological community Swamp Sclerophyll Forest on Coastal Floodplains as listed under Part 3 Schedule 1 of the Threatened Species Conservation Act 1995. The presence of this vegetation community may restrict the development potential of the land. The nature and extent of any threatened species or cultural heritage constraints should be determined following an assessment of the land by a qualified and experienced ecologist/consultant.

A notice has been served to connect the premises to the sewer.

A Tree Preservation Order applies to all trees having a height exceeding 3 metres from the ground and certain other native species (including River Mangrove and Grey Mangrove) irrespective of height.

Land subject to Interim Development Order 122 Clearing (including the underscrubbing) of vacant land is prohibited. The clearing of vacant land (including underscrubbing) is not and cannot be considered as a specific action for which development consent can be given. Clearing (including underscrubbing) is only permitted in association with lawful consent (such as a previous approval by Council or the court). Min.No:71/98

Note: This Certificate is issued without Alteration and Erasure.

TITLE DEED SEARCH

Legal Liaison Searching Services

ABN: 52832569710
Ph: 02 9233 5800
Fax: 02 9221 2827

Level 4, 70 Castlereagh Street,
Sydney 2000
PO Box 2513 Sydney NSW 2001
DX 1019 Sydney

Summary of Owners Report

LPI

Sydney

Address: - Bakali Road, Forresters Beach

Description: - Lots 1 2 & 3 D.P 1000694

As regards the part tinted pink on the attached copy of D.P. 1000694

This part was formerly a road, subsequently closed by notification in Government Gazette dated 15.07.1905

The first title to issue was in 1931

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
10.04.1931 (1931 to 1931)	N.S.W. Realty Co Limited	Vol 4475 Fol 124
29.10.1931 (1931 to 1936)	William Harvey (Retired Manufacturer)	Vol 4475 Fol 124 Now Vol 4515 Fol 200
20.05.1936 (1936 to 1941)	William Hedley Harvey (Furniture Warehouseman) (Transmission Application not investigated)	Vol 4515 Fol 200
10.07.1941 (1941 to 1951)	Otto Oscar Groth (Produce Merchant)	Vol 4515 Fol 200
26.06.1951 (1951 to 1959)	Emma May Jorgensen (Married Woman)	Vol 4515 Fol 200
09.12.1959 (1959 to 1972)	Linda Monica Barrie (Widow) James Albert Barrie (Motor Mechanic) Mervyn Francis Barrie (Motor Mechanic)	Vol 4515 Fol 200 Now Vol 8204 Fol 168
14.06.1972 (1972 to 1972)	James Albert Barrie (Motor Mechanic) Mervyn Francis Barrie (Motor Mechanic)	Vol 8204 Fol 168
29.06.1972 (1972 to 1973)	Kevin Arthur Rubie (Company Representative) Margaret Rose Rubie (Married Woman)	Vol 8204 Fol 168
07.06.1973 (1973 to 1992)	K & M Rubie Pty Limited	Vol 8204 Fol 168 Now Auto Consol 8204-168
06.11.1992 (1992 to 1992)	Robert William Polley Anne Patterson Polley Loui Nicholas Mary Nicholas Luigi Cicco Thomas Hope Murrie Donna Leanne Rush John Lisbona Bellhome Pty Limited	Auto Consol 8204-168 Now 1/121549
08.12.1992 (1992 to 1999)	The Park-Forresters Beach Pty Limited	1/121549 Now 3/1000694

Legal Liaison Searching Services

ABN: 52832569710
Ph: 02 9233 5800
Fax: 02 9221 2827

Level 4, 70 Castlereagh Street,
Sydney 2000
PO Box 2513 Sydney NSW 2001
DX 1019 Sydney

As regards the part tinted orange on the attached copy of D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.03.1914 (1914 to 1931)	N.S.W. Realty Co Limited	Vol 2010 Fol 248
29.10.1931 (1931 to 1936)	William Harvey (Retired Manufacturer)	Vol 2010 Fol 248 Now Vol 4515 Fol 200
20.05.1936 (1936 to 1941)	William Hedley Harvey (Furniture Warehouseman) (Transmission Application not investigated)	Vol 4515 Fol 200
10.07.1941 (1941 to 1951)	Otto Oscar Groth (Produce Merchant)	Vol 4515 Fol 200
26.06.1951 (1951 to 1959)	Emma May Jorgensen (Married Woman)	Vol 4515 Fol 200
09.12.1959 (1959 to 1972)	Linda Monica Barrie (Widow) James Albert Barrie (Motor Mechanic) Mervyn Francis Barrie (Motor Mechanic)	Vol 4515 Fol 200 Now Vol 8204 Fol 168
14.06.1972 (1972 to 1972)	James Albert Barrie (Motor Mechanic) Mervyn Francis Barrie (Motor Mechanic)	Vol 8204 Fol 168
29.06.1972 (1972 to 1973)	Kevin Arthur Rubie (Company Representative) Margaret Rose Rubie (Married Woman)	Vol 8204 Fol 168
07.06.1973 (1973 to 1992)	K & M Rubie Pty Limited	Vol 8204 Fol 168 Now Auto Consol 8204-168
06.11.1992 (1992 to 1992)	Robert William Polley Anne Patterson Polley Loui Nicholas Mary Nicholas Luigi Cicco Thomas Hope Murrie Donna Leanne Rush John Lisbona Bellhome Pty Limited	Auto Consol 8204-168 Now 1/121549
08.12.1992 (1992 to 1999)	The Park-Forresters Beach Pty Limited	1/121549 Now 3/1000694

As regards the part tinted yellow on the attached copy of D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.12.1913 (1913 to 1920)	N.S.W. Realty Co Limited	Vol 1991 Fol 206
21.12.1920 (1920 to 1943)	William Julian Hosking (Painter) (& His Deceased Estate)	Vol 1991 Fol 206 Now Vol 3148 Fol 215
26.08.1943 (1943 to 1947)	Stanley Robert Dalziell (Turner)	Vol 3148 Fol 215
22.12.1947 (1947 to 1949)	Thomas Kenneth Griffin (Poultry Farmer)	Vol 3148 Fol 215
22.07.1949 (1949 to 1954)	Ethel Mary Mullen (Married Woman)	Vol 3148 Fol 215 Now Vol 6573 Fol 235
25.10.1954 (1954 to 1969)	Albert Gregory (Poultry Farmer)	Vol 6573 Fol 235

Legal Liaison Searching Services

ABN: 52832569710
Ph: 02 9233 5800
Fax: 02 9221 2827

Level 4, 70 Castlereagh Street,
Sydney 2000
PO Box 2513 Sydney NSW 2001
DX 1019 Sydney

Search continued as regards the part tinted yellow on the attached copy of D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
29.07.1969 (1969 to 1969)	Frederick Roy Bononfant (Retired)	Vol 6573 Fol 235
19.12.1969 (1969 to 1974)	Keith Edward Jones (Butcher) Beryl May Jones (Married Woman)	Vol 6573 Fol 235
17.10.1974 (1974 to 1977)	Romon (No. 10) Pty Limited	Vol 6573 Fol 235
27.06.1977 (1977 to 1992)	K & M Rubie Pty Limited	Vol 6573 Fol 235 Now Vol 13395 Fol 214
06.11.1992 (1992 to 1992)	Robert William Polley Anne Patterson Polley Loui Nicholas Mary Nicholas Luigi Cicco Thomas Hope Murrie Donna Leanne Rush John Lisbona Bellhome Pty Limited	Vol 13395 Fol 214
08.12.1992 (1992 to 1999)	The Park-Forresters Beach Pty Limited	Vol 13395 Fol 214 Now 1, 2 & 3/1000694

Search continued as regards Lot 1 D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
01.06.1999 (1999 to date)	# Melissa Leigh Hall # Damian Bradley James Scott	1/1000694

Denotes current registered proprietors

Easements: -

- 04.05.1999 Restrictions in the use of land (affecting part marked (R) on D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (affecting part marked (S) on D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (D.P. 1000694)

Leases: - NIL

Legal Liaison Searching Services

ABN: 52832569710

Ph: 02 9233 5800

Fax: 02 9221 2827

Level 4, 70 Castlereagh Street,

Sydney 2000

PO Box 2513 Sydney NSW 2001

DX 1019 Sydney

Search continued as regards Lot 2 D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
18.06.1999 (1999 to date)	# Craig John Horton # Trudy Anna Horton	2/1000694

Denotes current registered proprietors

Easements: -

- 04.05.1999 Right of Carriageway 10.5 metres wide and variable D.P. 1000694)
- 04.05.1999 Easement for Services 3, 6 and 10.5 metres wide and variable D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (affecting part marked (R) on D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (affecting part marked (S) on D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (D.P. 1000694)
- 04.05.1999 Easement for Water Supply 3 and 10.5 metres wide and variable D.P. 1000694)

Leases: - NIL

Search continued as regards Lot 3 D.P. 1000694

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.06.1999 (1999 to 2002)	John Stephen Barr Kathryn Jane Barr	3/1000694
30.08.2002 (2002 to date)	# Brendon Robert Briggs # Julie Anne Briggs	3/1000694

Denotes current registered proprietors

Easements: -

- 15.12.1983 Easement to Drain Water 6 metres wide (T 732471)
- 04.05.1999 Right of Carriageway 10.5 metres wide and variable D.P. 1000694)
- 04.05.1999 Easement for Services 3, 6 and 10.5 metres wide and variable D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (affecting part marked (R) on D.P. 1000694)
- 04.05.1999 Restrictions in the use of land (D.P. 1000694)

Leases: - NIL

Yours Sincerely
Mark Groll
10 November 2015
(Ph: 0412 199 304)

Cadastral Records Enquiry Report

Ref : surv:scim-grolim

Locality : FORRESTERS BEACH

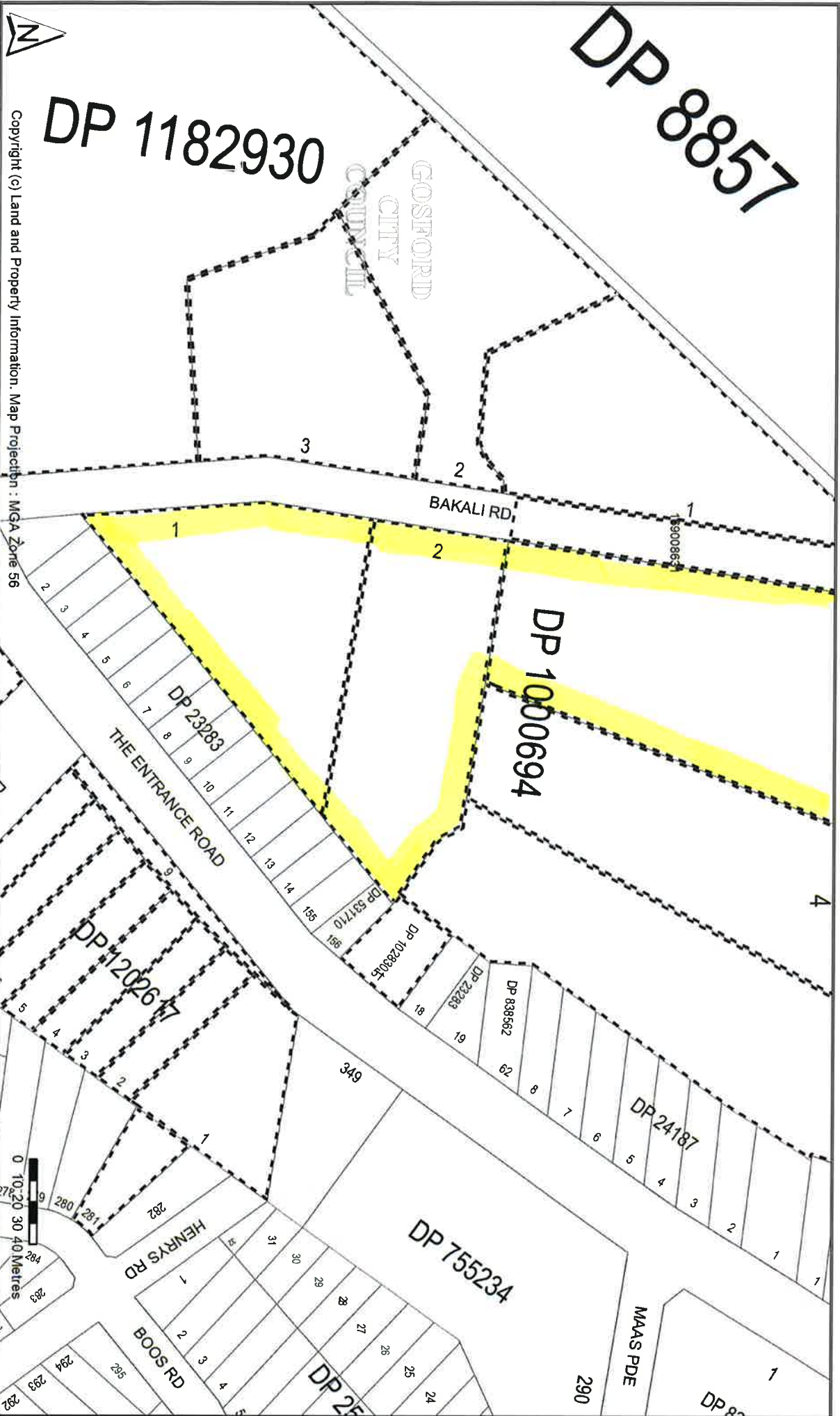
Requested Parcel : Lot 2 DP 1000694

Parish : KINCUMBER

Identified Parcel : Lot 2 DP 1000694

County : NORTHUMBERLAND

Report Generated 3:05:17 PM, 9 November, 2015
Copyright © Land and Property Information ABN: 84 104 377 806



Copyright (c) Land and Property Information. Map Projection : MGA Zone 56

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGs Charting and Reference Maps.

Cadastral Records Enquiry Report

Ref : surv/scim-grollm

Locality : FORRESTERS BEACH

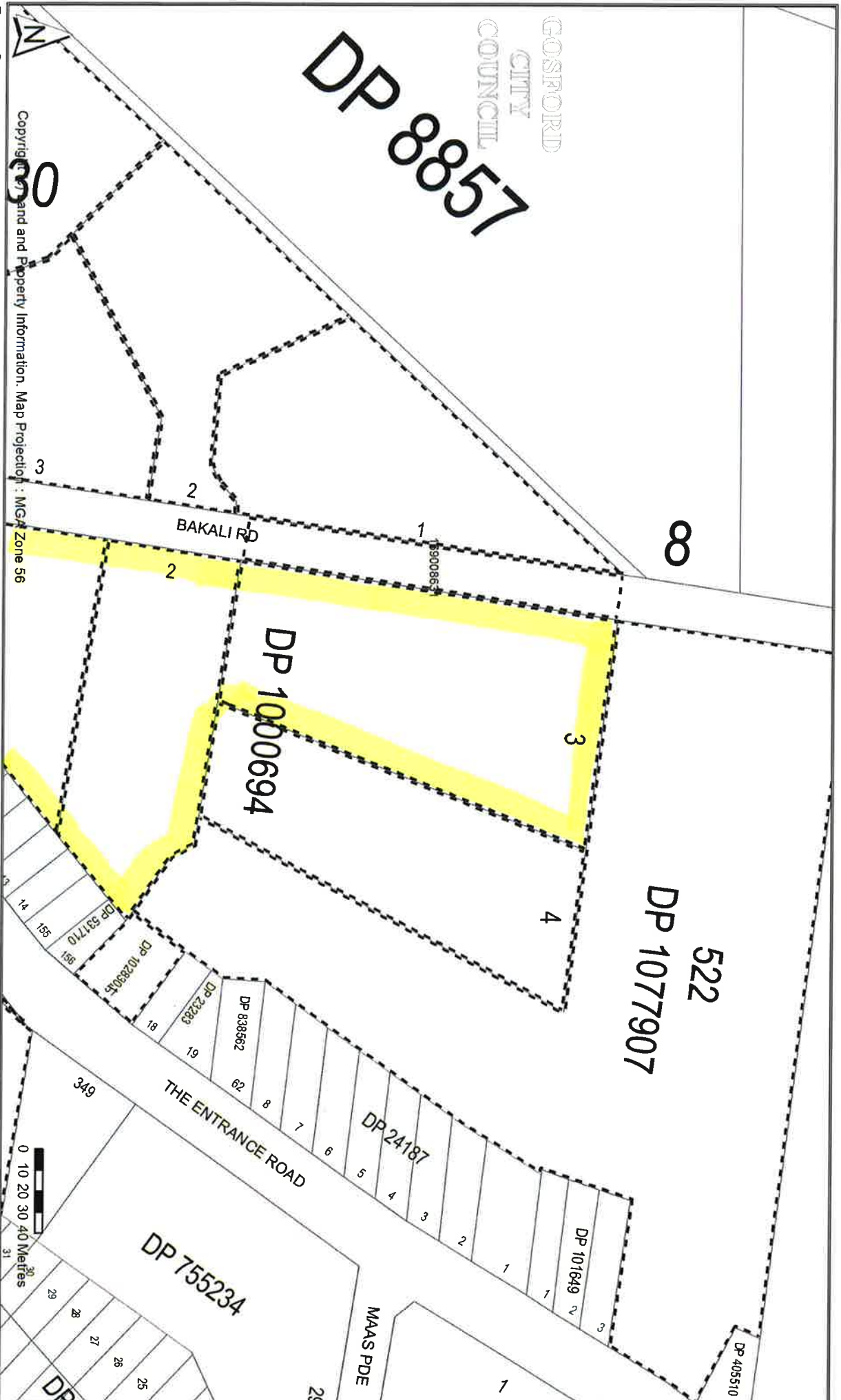
Requested Parcel : Lot 3 DP 1000694

Identified Parcel : Lot 3 DP 1000694

LGA : GOSFORD

Parish : KINCUMBER

County : NORTHUMBERLAND



Copyright in Land and Property Information. Map Projection : MGA Zone 56

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGS Charting and Reference Maps.



THE COMMON SENSE OF THE GREAT AUSTRALIANS HAS APPLIED IN RECOGNIZING THIS RELEVANT AND REASSURANCE IN THE RECORD OF:

Benedict A. Atkinson
 5/1/1999
 7/1/1999
 Trevor J. Atkinson
 1/1/1999

PLAN FOR THE SUBDIVISION OF LAND

Lot 1: 1003 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 2: 1014 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 3: 121 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 4: 1453 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 5: 1616 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

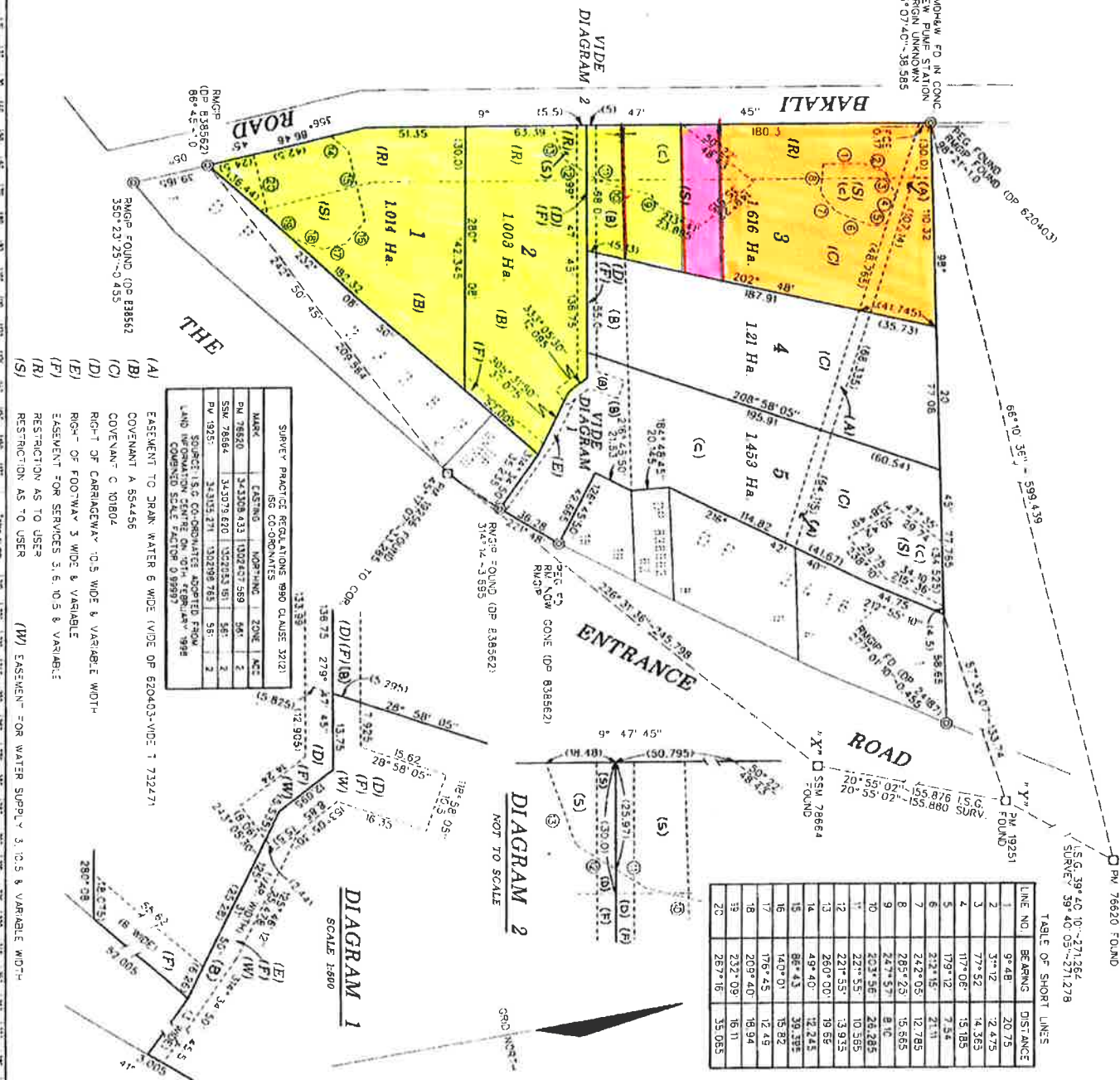


TABLE OF SHORT LINES

LINE NO.	BEARING	DISTANCE
1	9° 48'	20.75
2	5° 12'	2.475
3	77° 52'	14.563
4	117° 06'	15.185
5	119° 12'	7.518
6	212° 15'	2.118
7	242° 05'	12.785
8	285° 25'	15.665
9	247° 57'	8.118
10	203° 36'	24.285
11	221° 55'	10.565
12	221° 55'	13.935
13	260° 00'	19.858
14	49° 40'	12.245
15	86° 43'	39.295
16	140° 01'	15.82
17	176° 45'	12.45
18	209° 40'	18.94
19	232° 09'	16.11
20	287° 16'	35.065

SURVEY PRACTICE REGULATIONS 880 CLAUSE 37(2)

MARK	CASTING	NORTHING	ZONE	ACC.
PV 78650	343108.433	1002402.589	541	2
SW 78664	343079.622	1002633.161	581	2
PV 1925	343105.271	1002999.781	551	2

SOURCE: I.S.G. CO-ORDINATES ADAPTED FROM LAND INFORMATION SYSTEM (L.I.S.) CO-ORDINATE SYSTEM 1988 (L.I.S. CO-ORDINATE SYSTEM 0.99891)

- (A) EASEMENT TO DRAIN WATER 6 WIDE (VIDE DP 620403-WIDE 1 712271)
- (B) COVENANT A 554456
- (C) COVENANT C 101804
- (D) RIGHT OF CARRIAGEWAY 10.5 WIDE & VARIABLE WIDTH
- (E) RIGHT OF FOOTWAY 3 WIDE & VARIABLE
- (F) EASEMENT FOR SERVICES 3.6, 10.5 & VARIABLE
- (G) RESTRICTION AS TO USER
- (H) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (I) RESTRICTION AS TO USER
- (J) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (K) RESTRICTION AS TO USER
- (L) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (M) RESTRICTION AS TO USER
- (N) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (O) RESTRICTION AS TO USER
- (P) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (Q) RESTRICTION AS TO USER
- (R) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (S) RESTRICTION AS TO USER
- (T) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (U) RESTRICTION AS TO USER
- (V) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (W) RESTRICTION AS TO USER
- (X) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH
- (Y) RESTRICTION AS TO USER
- (Z) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH

DP 1000694

4-5-1999

NO 5474 OF 7-4-1999

Register of
 DP 1000694
 No 5474 of 7-4-1999

Plan No: DP 838562

Plan of Subdivision of
 Lot 61 DP 838562

Lot 1: 1003 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 2: 1014 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 3: 121 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 4: 1453 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 5: 1616 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Plan No: DP 838562

Plan of Subdivision of
 Lot 61 DP 838562

Lot 1: 1003 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 2: 1014 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

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Plan No: DP 838562

Plan of Subdivision of
 Lot 61 DP 838562

Lot 1: 1003 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 2: 1014 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

Lot 3: 121 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)

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Lot 5: 1616 Ha. (B) (F) (D) (P) (S) (I) (C) (A) (E) (W) (R) (N) (G) (M) (H) (J) (K) (L) (O) (Q) (U) (V) (X) (Y) (Z)



THE COMMON SEAL OF THE SURVEYORS' ASSOCIATION OF NEW SOUTH WALES
 BEING BY ITS AUTHORITY REGISTERED WITH ITS ACTING CLERK IN THE REGISTERED OFFICE OF THE SURVEYORS' ASSOCIATION OF NEW SOUTH WALES

5. *[Signature]*
 BENEDICT A.C. ATTUNION
 SUEC TOR

[Signature]
 Trevor J. Mendenhall
 SUEC TOR

NOTED to be used in lieu of ST. GEORGE'S ROAD LIMITED
 AND
 [Illegible text]

NEW APPROVED: [Illegible]
 Local District: [Illegible]
 Field Book: [Illegible]

Corrected by: [Illegible]
 Date: [Illegible]

have been complied with by the applicant in relation to the proposed [Illegible]
 Subdivision No. [Illegible]

Surveyors' Reference: 8395UR

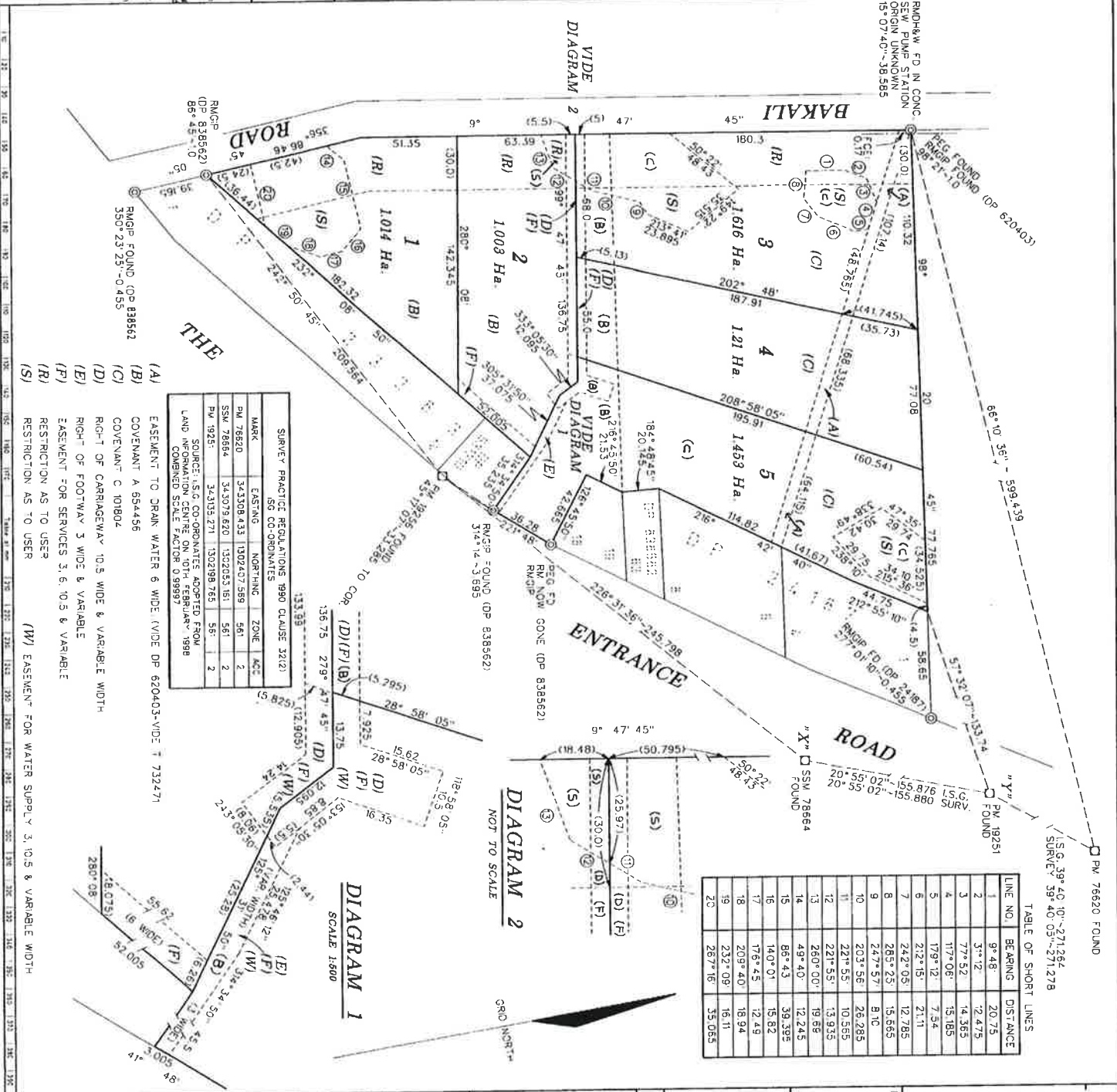


TABLE OF SHORT LINES

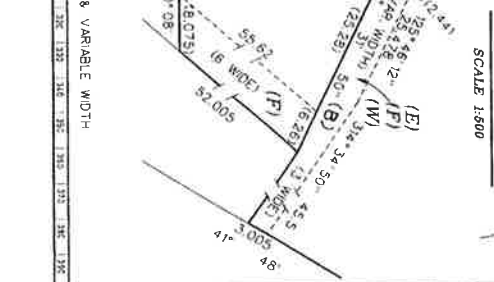
LINE NO.	BEARING	DISTANCE
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3	77° 52'	14.365
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5	179° 12'	7.54
6	212° 15'	21.1
7	242° 05'	12.785
8	265° 25'	15.665
9	247° 57'	9.10
10	203° 56'	26.285
11	224° 55'	10.565
12	221° 55'	13.935
13	260° 00'	19.98
14	49° 40'	12.245
15	86° 43'	39.395
16	140° 01'	15.82
17	176° 45'	12.49
18	209° 40'	16.94
19	232° 09'	16.11
20	267° 16'	35.065

SURVEY PRACTICE REGULATIONS 1990 CLAUSE 32(2)
 S.G. CO-ORDINATES

MARK	EASTING	NORTHING	ZONE	ACC.
PW 78620	343308.433	1302407.589	561	2
SSW 78654	343079.620	1302093.161	561	2
PW 19251	343105.271	1302198.765	561	2

SOURCE: I.S.G. CO-ORDINATES ADOPTED FROM LAND INFORMATION CENTRE ON 10TH FEBRUARY 1998
 LAND COMBINED SCALE FACTOR 0.99997

- (A) EASEMENT TO DRINK WATER 6 WIDE (WIDE DP 620403-WIDE 7 73271)
- (B) COVENANT A 654456
- (C) COVENANT C 101804
- (D) RIGHT OF CARRIAGEWAY 10.5 WIDE & VARIABLE WIDTH
- (E) RIGHT OF FOOTWAY 3 WIDE & VARIABLE
- (F) EASEMENT FOR SERVICES 3, 6, 10.5 & VARIABLE
- (R) RESTRICTION AS TO USER
- (S) RESTRICTION AS TO USER
- (W) EASEMENT FOR WATER SUPPLY 3, 10.5 & VARIABLE WIDTH



Registered DP1000694
 No 54,74 DP 7-6-1999

The System: TORRENS
 Purpose: SUBDIVISION
 Ref No: U3697-6
 Last Plan: DP 838562

PLAN OF SUBDIVISION OF LOT 61 DP 838562

LGA: GOSFORD
 Locality: FORRESTERS BEACH
 Parish: KINCUMBER
 County: NORTHUMBERLAND

Panel: FOR USE ONLY for statements of intention to create public roads or to create public reserves, drainage reserves, easements, or other rights on the use of land or other purposes.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT, 1919, IT IS INTENDED TO CREATE:-

- RIGHT OF CARRIAGEWAY
- 10.5 WIDE & VARIABLE WIDTH
- RIGHT OF FOOTWAY 3 WIDE & VARIABLE WIDTH
- EASEMENT FOR SERVICES 3, 6, 10.5 & VARIABLE WIDTH
- RESTRICTION ON THE USE OF LAND (R)
- RESTRICTION ON THE USE OF LAND (S)
- RESTRICTION ON THE USE OF LAND
- EASEMENT FOR WATER SUPPLY

Zone: SUBURBAN
 DP 838562 DP 24187
 DP 879083 DP 23283



Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:14PM

FOLIO: AUTO CONSOL 8204-168

Recorded	Number	Type of Instrument	C.T. Issue
2/6/1992		CONSOL HISTORY RECORD CREATED FOR AUTO CONSOL 8204-168	
PARCELS IN CONSOL ARE: 5/24187, 7-8/24187, 1/121549.			
6/11/1992	E876831	DISCHARGE OF MORTGAGE	
6/11/1992	E876834	TRANSFER	
6/11/1992	E876835	MORTGAGE	EDITION 1
3/12/1992		1/121549 EXCISED	
8/12/1992	E924050	DISCHARGE OF MORTGAGE	
8/12/1992	E924051	TRANSFER	EDITION 2
4/1/1993	I19939	DEPARTMENTAL DEALING	EDITION 3
9/9/1994	U603868	TRANSFER	
9/9/1994	U603869	MORTGAGE	EDITION 4
19/9/1994	U603868	7/24187 EXCISED	
20/9/1994	U634104	DEPARTMENTAL DEALING	EDITION 5
5/10/1994	U668770	8/24187 EXCISED	
5/10/1994	U668770	5/24187 EXCISED	
5/10/1994	U668770	PARCELS EXCISED. CONSOL BROKEN UP	

*** END OF SEARCH ***

forresters

PRINTED ON 9/11/2015

*ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

RP13



TRANSFE
Real Property Act, 1900



E
876834 **G**

only

42-

02 **B**

Office of State Revenue use only

50/S/ZCR4007 40 5245 266010

(A) LAND TRANSFERRED

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

FOLIO IDENTIFIER AUTO-CONSOL 8204-168
✓ VOLUME 4490 FOLIO 138, VOLUME 13395 FOLIO 214
✓ FOLIO IDENTIFIER 2/706892, FOLIO IDENTIFIER 62/747931
FOLIO IDENTIFIER 4/8857, FOLIO IDENTIFIER 3/45580.

(B) LODGED BY

L.T.O. Box 45A	Name, Address or DX and Telephone NATIONAL AUSTRALIA BANK LIMITED National Australia Bank Limited 255 George Street, Sydney 237-1111 FAX 237-1284 REFERENCE (max. 15 characters): 45A
-----------------------	--

(C) TRANSFEROR

.....K. & M. RUBIE PTY LIMITED..(ACN. 000. 870. 155).....

(D) acknowledges receipt of the consideration of \$2,600,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following ENCUMBRANCES 1. W172226..... 2. 3.

(F) TRANSFEREE

T	SEE ANNEXURE A
----------	----------------

(G) as joint tenants/tenants in common

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. DATE 24.9.92

Signed in my presence by the transferor who is personally known to me.
Duly executed by the Vendor K & M Rubie Pty Limited by its duly authorised

Signature of Witness

Attorney Kevin R Shirlaw pursuant to
Name of Witness (BLOCK LETTERS)

Power of Attorney Book 3873 No 637.
Address of Witness

[Signature]
Signature of Witness

NEIL R. CUSSEN
Name of Witness (BLOCK)

1 MARKET ST, STONEY
Address of Witness

[Signature]
Signature of Transferor

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

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

SOLICITOR FOR *[Signature]* Signature of Transferee (PAUL V. WAKIM)

4017
6-11

2R

ALS

John Wain

B

THIS IS THE ANNEXURE "A" TO THE TRANSFER BY K. & M. RUBIE PTY. LIMITED AS TRANSFEROR OF THE LAND COMPRISED IN THE FOLLOWING TITLES.

1. FOLIO IDENTIFIER AUTO-CONSOL 8204-168
2. VOLUME 4490 FOLIO 138,
3. FOLIO IDENTIFIER 2/706892
4. FOLIO IDENTIFIER 4/8857
5. VOLUME 13395 FOLIO 214
6. FOLIO IDENTIFIER 62/747931
7. FOLIO IDENTIFIER 3/45580

TRANSFEREES

4490-138
13395-214

ROBERT WILLIAM POLLEY and ANNE PATTERSON POLLEY both of 4 Whitfield Avenue, Ashfield as joint tenants as to an undivided one-fifth share, as tenant in common with

2/10

X LOUI NICHOLAS and MARY NICHOLAS both of 16 Florida Avenue, Ermington, as joint tenants as to an undivided one-fifth share, as tenant in common with

2/10

LUIGI CICCICO of 1/8 Eastbourne Road, Homebush, as to an undivided one-tenth share, as tenant in common with

1/10

THOMAS HOPE MURRIE of 37A Copeland Road, Beecroft, as to an undivided one-tenth share, as tenant in common with

1/10

X DONNA LEANNE RUSH, of 37A Copeland Road, Beecroft, as to an undivided one-tenth share, as tenant in common with

1/10

JOHN LISBONA, of 49 Broome Street, Maroubra, as to an undivided one-tenth share, as tenant in common with

1/10

BELLHOME PTY LIMITED (ACN 056 418 252) C/- Murrie & Co, Accountants, 2 O'Connell Street, Parramatta, as to an undivided two-tenths share.

2/10

X [Signature]



Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI/NSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:10PM

FOLIO: 1/121549

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

Prior Title(s): VOL 8204 FOL 168

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
28/5/1992	DP121549	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
2/6/1992		CONVERTED TO AUTO CONSOL 8204-168	CONSOL CREATED CT NOT ISSUED
3/12/1992		EXCISED FROM AUTO CONSOL 8204-168	
8/12/1992	E924050	DISCHARGE OF MORTGAGE	
8/12/1992	E924052	TRANSFER	EDITION 2
4/1/1993	I19939	DEPARTMENTAL DEALING	EDITION 3
5/5/1994	DP838562	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

RP13



TRANSFER

Real Property Act, 1900



E
924052 A



B

Office of State Re

10/11/2015 09:00:00 AM 924052 A

D

(A) **LAND TRANSFERRED**

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

being Lot 1 in Deposited Plan 121549
Part Volume 8204 Folio 168/ and the whole of
Volume 13395 Folio 214

(B) **LODGED BY**

L.T.O. Box
249H

Name, Address or DK and Telephone
Dibbs Crowther and Osborne
DX 101 Sydney
Tel: .290 8220
REFERENCE (max. 15 characters): DJS

(C) **TRANSFEROR**

ROBERT WILLIAM POLLEY, ANNE PATTERSON POLLEY, LOUI NICHOLAS, MARY NICHOLAS, LUIGI CICCIO, THOMAS HOPE MURRIE, DONNA LEANNE RUSH, JOHN LISBONA AND BELLHOME PTY LIMITED ACN 056 418 252

(D) acknowledges receipt of the consideration of \$440,000.00

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following ENCUMBRANCES 1. 2. 3.

(F) **TRANSFEEE**

T

THE PARK-FORRESTERS BEACH PTY LIMITED ACN 056 986 282
of C/- Saccasan Baily Roy, 4th Floor, 55 York Street,
Sydney.
as joint tenants/tenants in common

OVER

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. DATE OF EXECUTION 18th November 1992

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

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

SEE ANNEXURE "A" HERETO

Signature of Transferor

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

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee's Solicitor
DAVID JAMES SHARPE

CHECKED BY (office use only)

INSTRUCTIONS FOR FILING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

0021
17

B

THIS IS THE ANNEXURE "A" TO THE TRANSFER BY POLLEY, NICHOLAS, CICCO, MURRIE, RUSH, LISBONA & BELLHOME PTY LTD AS TRANSFERORS AND THE PARK-FORRESTERS BEACH PTY LIMITED AS TRANSFEREES.

Robert William Polley
.....
ROBERT WILLIAM POLLEY

Anne Patterson Polley
.....
ANNE PATTERSON POLLEY

Louie Nicholas
.....
LOUI NICHOLAS

Mary Nicholas
.....
MARY NICHOLAS

Luigi Cicco
.....
LUIGI CICCO

Thomas Hope Murrie
.....
THOMAS HOPE MURRIE

Donna Leanne Rush
.....
DONNA LEANNE RUSH

John Lisbona
.....
JOHN LISBONA

[Signature]
.....
SIGNATURE OF WITNESS

Paul Vincent William Seneca
.....
NAME OF WITNESS

42A Miraculo St Pittfield
.....
ADDRESS OF WITNESS

THE COMMON SEAL OF BELLHOME
PTY LIMITED (ACN 056 418 252)
was hereunto affixed by Order of
the Board in the presence of



[Signature]
.....
DIRECTOR

[Signature]
.....
SECRETARY

CERTIFICATE OF TITLE

CANCELLED 

TORRENS TITLE Register 61-62/838562

NEW SOUTH WALES

REAL PROPERTY ACT, 1900

Vol. 1



13395214

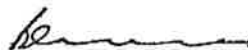


9 8 1977

Crown Grant Vol.1273 Fol.205

Prior Title Vol.6953 Fol.47

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

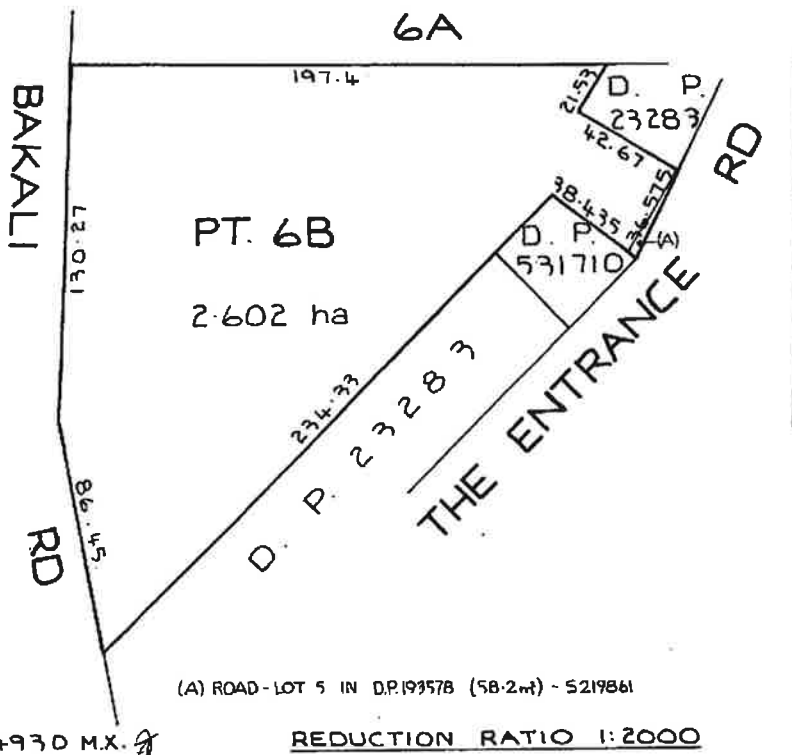


Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



(A) ROAD - LOT 5 IN D.P.193578 (58.2m) - 5219861

Q254930 M.X.

REDUCTION RATIO 1:2000

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in the part of Lot 6B in Deposited Plan 8857 shown in the plan hereon in the Shire of Gosford Parish of Kincumber and County of Northumberland. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~K. and M. RUMPTON PTY. LIMITED.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. A654456^{CV} Covenant.
3. ~~Q254930 Mortgage to Roman (No. 10) Pty. Limited.~~ ^{GRM} Discharged R401758

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

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

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:10PM

FOLIO: 61/838562

First Title(s): VOL 1273 FOL 205 VOL 4475 FOL 124
Prior Title(s): 1/121549 VOL 13395 FOL 214

Recorded	Number	Type of Instrument	C.T. Issue
5/5/1994	DP838562	DEPOSITED PLAN	FOLIO CREATED EDITION 1
21/7/1997	3253310	MORTGAGE	EDITION 2
4/5/1999	DP1000694	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:07PM

FOLIO: 1/1000694

First Title(s): VOL 1273 FOL 205

Prior Title(s): 61/838562

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
4/5/1999	DP1000694	DEPOSITED PLAN	FOLIO CREATED EDITION 1
1/6/1999	5869181	DISCHARGE OF MORTGAGE	
1/6/1999	5869182	TRANSFER	EDITION 2
25/2/2000	6597085	MORTGAGE	EDITION 3

*** END OF SEARCH ***



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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/1000694

SEARCH DATE	TIME	EDITION NO	DATE
9/11/2015	3:06 PM	3	25/2/2000

LAND

LOT 1 IN DEPOSITED PLAN 1000694
AT FORRESTERS BEACH
LOCAL GOVERNMENT AREA GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1000694

FIRST SCHEDULE

MELISSA LEIGH HALL
DAMIAN BRADLEY JAMES SCOTT
AS TENANTS IN COMMON IN EQUAL SHARES (T 5869182)

SECOND SCHEDULE (7 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 A654456 COVENANT
- 3 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 4 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN DESIGNATED (R) IN THE TILE DIAGRAM
- 5 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART DESIGNATED (S) IN THE TITLE DIAGRAM
- 6 DP1000694 RESTRICTION(S) ON THE USE OF LAND
- 7 6597085 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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PRINTED ON 9/11/2015

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:07PM

FOLIO: 2/1000694

First Title(s): VOL 1273 FOL 205

Prior Title(s): 61/838562

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
4/5/1999	DP1000694	DEPOSITED PLAN	FOLIO CREATED EDITION 1
18/6/1999	5912286	DISCHARGE OF MORTGAGE	
18/6/1999	5912287	TRANSFER	
18/6/1999	5912288	MORTGAGE	EDITION 2
19/5/2010	AF499392	DISCHARGE OF MORTGAGE	
19/5/2010	AF499393	MORTGAGE	EDITION 3

*** END OF SEARCH ***

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Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/1000694

SEARCH DATE	TIME	EDITION NO	DATE
9/11/2015	3:06 PM	3	19/5/2010

LAND

LOT 2 IN DEPOSITED PLAN 1000694
 AT FORRESTERS BEACH
 LOCAL GOVERNMENT AREA GOSFORD
 PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
 TITLE DIAGRAM DP1000694

FIRST SCHEDULE

CRAIG JOHN HORTON
 TRUDY ANNA HORTON
 AS JOINT TENANTS

(T 5912287)

SECOND SCHEDULE (12 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 A654456 COVENANT
- 3 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 4 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 5 DP1000694 RIGHT OF FOOTWAY 3 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 6 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 7 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 8 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN DESIGNATED (R) IN THE TITLE DIAGRAM
- 9 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART DESIGNATED (S) IN THE TITLE DIAGRAM
- 10 DP1000694 RESTRICTION(S) ON THE USE OF LAND
- 11 DP1000694 EASEMENT FOR WATER SUPPLY 3,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 12 AF499393 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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PRINTED ON 9/11/2015

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

9/11/2015 3:08PM

FOLIO: 3/1000694

First Title(s): VOL 1273 FOL 205 VOL 4475 FOL 124

Prior Title(s): 61/838562

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
4/5/1999	DP1000694	DEPOSITED PLAN	FOLIO CREATED EDITION 1
16/6/1999	5907218	DISCHARGE OF MORTGAGE	
16/6/1999	5907219	TRANSFER	EDITION 2
8/9/1999	6171417	MORTGAGE	EDITION 3
30/8/2002	8911295	DISCHARGE OF MORTGAGE	
30/8/2002	8911296	TRANSFER	
30/8/2002	8911297	MORTGAGE	
30/8/2002	8911298	MORTGAGE	EDITION 4

*** END OF SEARCH ***

5907219L

97-01T

Licence Number
010CN/0214/95

TRANSFER

Real Property Act, 1900



Office of Sta

\$2,000

200598 4003 04 800771826/03

N.S.W. STAMP DUTY

(A) **LAND TRANSFERRED**

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

61/838562(PART)
NOW BEING FOLIO IDENTIFIER 3/1000694

(B) **LODGED BY**

L.T.O Box
147R

Aubrey Brown Partners
DX 7305 Wyong
(02) 4332 8077

Reference : ~~80~~80 8401 : *Burr*

(C) **TRANSFEROR**

THE PARK FORRESTERS BEACH PTY LIMITED ACN 056 986 282

(D) acknowledges receipt of the consideration of \$260,000.00.....
and as regards the land specified above transfers to the Transferee an estate in fee simple.

(E) subject to the following **ENCUMBRANCES 1.**

(F) **TRANSFEEE**

T	JOHN STEPHEN BARR AND KATHRYN JANE BARR
	Tenancy: Joint Tenants

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900

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

The Park Forresters Beach Pty Limited ACN 056 986 282 was here affixed

Signature of Witness

in the presence of:

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of director/secretary



Signature of Transferor

director

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

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Solicitor for Transferee - Gordon William Popple

CHECKED BY (office use only)

[Signature]



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Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 3/1000694

SEARCH DATE	TIME	EDITION NO	DATE
9/11/2015	3:06 PM	4	30/8/2002

LAND

LOT 3 IN DEPOSITED PLAN 1000694
AT FORRESTERS BEACH
LOCAL GOVERNMENT AREA GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1000694

FIRST SCHEDULE

BRENDON ROBERT BRIGGS
JULIE ANNE BRIGGS
AS JOINT TENANTS (T 8911296)

SECOND SCHEDULE (13 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 C101804 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
3 A654456 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 T732471 EASEMENT TO DRAIN WATER 6 METRES WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
5 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
6 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
7 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
8 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
9 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN DESIGNATED (R) IN THE TITLE DIAGRAM
10 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART DESIGNATED (S) IN THE TITLE DIAGRAM
11 DP1000694 RESTRICTION(S) ON THE USE OF LAND
12 8911297 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED
13 8911298 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

END OF PAGE 1 - CONTINUED OVER

forresters

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 3/1000694

PAGE 2

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 4/1000694

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
27/10/2014	12:07 PM	5	24/10/2014

LAND

LOT 4 IN DEPOSITED PLAN 1000694
AT FORRESTERS BEACH
LOCAL GOVERNMENT AREA GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1000694

FIRST SCHEDULE

VERSATILE LIVING PTY LIMITED (T AI980929)

SECOND SCHEDULE (10 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 C101804 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 3 A654456 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 4 T732471 EASEMENT TO DRAIN WATER 6 METRES WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 6 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 7 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 8 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 9 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART DESIGNATED (S) IN THE TITLE DIAGRAM
- 10 DP1000694 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 27/10/2014

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 51/1028301

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
30/10/2014	3:53 PM	6	15/11/2012

LAND

LOT 51 IN DEPOSITED PLAN 1028301
 AT FORRESTERS BEACH
 LOCAL GOVERNMENT AREA GOSFORD
 PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
 TITLE DIAGRAM DP1028301

FIRST SCHEDULE

TERRIGAL GROSVENOR LODGE PTY LIMITED (T AD272087)

SECOND SCHEDULE (12 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 A654456 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 3 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 4 DP1000694 RIGHT OF FOOTWAY 3 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 6 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE LAND ABOVE DESCRIBED
- 7 DP1000694 RESTRICTION(S) ON THE USE OF LAND
 7870972 VARIATION OF RESTRICTION DP1000694
- 8 DP1000694 EASEMENT FOR WATER SUPPLY 3,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 9 DP1028301 EASEMENT TO DRAIN SEWAGE OVER EXISTING LINE OF PIPES APPURTENANT TO THE LAND ABOVE DESCRIBED
- 10 DP1028301 EASEMENT FOR SERVICES 3 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 11 DP1028301 RIGHT OF FOOTWAY 3 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 12 AH369317 MORTGAGE TO SECURE FUNDING PTY LTD

END OF PAGE 1 - CONTINUED OVER

PRINTED ON 30/10/2014

FOLIO: 51/1028301

PAGE 2

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 30/10/2014

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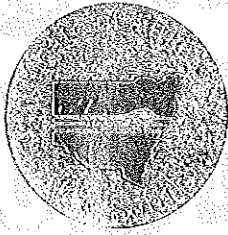
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BOX 1W
(AD272087)

NEW SOUTH WALES

CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900



TORRENS TITLE

REFERENCE TO FOLIO OF THE REGISTER	
IDENTIFIER 3/101649	
EDITION	DATE OF ISSUE
4	18/7/2007
CERTIFICATE AUTHENTICATION CODE	
YDHI-I5-3FV9	

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple (or such other estate or interest as is set forth in that Schedule) in the land within described subject to such exceptions, encumbrances, interests and entries as appear in the Second Schedule and to any additional entries in the Folio of the Register.



REGISTRAR GENERAL

LAND

LOT 3 IN DEPOSITED PLAN 101649
AT FORRESTERS BEACH
LOCAL GOVERNMENT AREA: GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM: DP101649

FIRST SCHEDULE

TERRIGAL GROSVENOR LODGE PTY LIMITED (T AD272087)

SECOND SCHEDULE

1. LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
2. C20279 COVENANT

**** END OF CERTIFICATE ****

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT).

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 522/1077907

SEARCH DATE	TIME	EDITION NO	DATE
3/5/2013	9:52 AM	3	23/5/2011

LAND

LOT 522 IN DEPOSITED PLAN 1077907
AT FORRESTERS BEACH
LOCAL GOVERNMENT AREA GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1077907

FIRST SCHEDULE

TERRIGAL GROSVENOR LODGE PTY LIMITED (T AG146253)

SECOND SCHEDULE (17 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 C20279 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 3 C101804 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 4 AA842085 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 5 A654456 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM.
- 6 T732471 EASEMENT TO DRAIN WATER 6 METRES WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 7 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 8 DP1000694 RIGHT OF CARRIAGEWAY 10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 9 DP1000694 RIGHT OF FOOTWAY 3 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 10 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 11 DP1000694 EASEMENT FOR SERVICES 3,6,10.5 METRES WIDE AND VARIABLE APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 12 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART DESIGNATED (S) IN THE TITLE DIAGRAM
7870972 VARIATION OF RESTRICTION DP1000694
- 13 DP1000694 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART

END OF PAGE 1 - CONTINUED OVER

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 522/1077907

PAGE 2

SECOND SCHEDULE (17 NOTIFICATIONS) (CONTINUED)

- SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 14 DP1000694 EASEMENT FOR WATER SUPPLY 3,10.5 METRES WIDE AND
VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE
TITLE DIAGRAM
- 15 DP1028301 EASEMENT TO DRAIN SEWAGE OVER EXISTING LINE OF PIPES
AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE
DIAGRAM
- 16 DP1028301 EASEMENT FOR SERVICES 3 METRE(S) WIDE AND VARIABLE
APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE
DIAGRAM
- 17 DP1028301 RIGHT OF FOOTWAY 3 METRE(S) WIDE AND VARIABLE
APPURTENANT TO THE PART SHOWN SO BENEFITED IN THE TITLE
DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: T AH702607.

*** END OF SEARCH ***

7358

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WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER**

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Search Date: **03-May-2013**

Cost Summary

Our Ref#	Search Type	Search Reference	Client Ref#	Total Cost	Total GST
2778667	Title Search	522/1077907	7358	10.14	0.93
				REPORT TOTAL:	10.14 0.93

* * * **END OF REPORT** * * *

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 18/23283

SEARCH DATE	TIME	EDITION NO	DATE
30/10/2014	3:56 PM	6	15/11/2012

LAND

LOT 18 IN DEPOSITED PLAN 23283
LOCAL GOVERNMENT AREA GOSFORD
PARISH OF KINCUMBER COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP23283

FIRST SCHEDULE

TERRIGAL GROSVENOR LODGE PTY LIMITED (T AD272087)

SECOND SCHEDULE (3 NOTIFICATIONS)

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 A654456 COVENANT
- 3 AH369317 MORTGAGE TO SECURE FUNDING PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 30/10/2014

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register.

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APPENDIX

C

TEST BORE LOGS

Explanatory Notes

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS1726-1993 Geotechnical Site Investigations. Material descriptions are deduced from field observation or engineering examination, and may be appended or confirmed by in situ or laboratory testing. The information is dependent on the scope of investigation, the extent of sampling and testing, and the inherent variability of the conditions encountered.

Subsurface investigation may be conducted by one or a combination of the following methods.

Method

Test Pitting: excavation/trench	
BH	Backhoe bucket
EX	Excavator bucket
X	Existing excavation
Natural Exposure: existing natural rock or soil exposure	
Manual drilling: hand operated tools	
HA	Hand Auger
Continuous sample drilling	
PT	Push tube
Hammer drilling	
AH	Air hammer
AT	Air track
Spiral flight auger drilling	
AS	Large diameter short spiral auger
AD/V	Continuous spiral flight auger: V-Bit
AD/T	Continuous spiral flight auger: TC-Bit
Hollow flight auger drilling	
HFA	Continuous hollow flight auger
Rotary non-core drilling	
WS	Washbore (mud drilling)
RR	Rock roller
Rotary core drilling	
HQ	63mm diamond-tipped core barrel
NMLC	52mm diamond-tipped core barrel
NQ	47mm diamond-tipped core barrel
Concrete coring	
DT	Diatube

Sampling is conducted to facilitate further assessment of selected materials encountered.

Sampling method

Disturbed sampling	
B	Bulk disturbed sample
D	Disturbed sample
ES	Environmental soil sample
Undisturbed sampling	
SPT	Standard Penetration Test sample
U	Thin wall tube 'undisturbed' sample
Water samples	
EW	Environmental water sample

Field testing may be conducted as a means of assessment of the in situ conditions of materials.

Field testing

SPT	Standard Penetration Test (blows/150mm)
HP/PP	Hand/Pocket Penetrometer
Dynamic Penetrometers (generally blows/150mm)	
DCP	Dynamic Cone Penetrometer
PSP	Perth Sand Penetrometer
MC	Moisture Content
VS	Vane Shear
PBT	Plate Bearing Test
PID	Photo Ionization Detector

If encountered, refusal (R) or virtual refusal (VR) of SPT or dynamic penetrometers may be noted.

The quality of the rock can be assessed by the degree of fracturing and the following.

Rock quality description

TCR	Total Core Recovery (%) (length of core recovered divided by the length of core run)
RQD	Rock Quality Designation (%) (sum of axial lengths of core greater than 100mm long divided by the length of core run)

Notes on groundwater conditions encountered may include.

Groundwater

Not Encountered	Excavation is dry in the short term
Not Observed	Water level observation not possible
Seepage	Water seeping into hole
Inflow	Water flowing/flooding into hole

Perched groundwater may result in a misleading indication of the depth to the true water table. Groundwater levels are also likely to fluctuate with variations in climatic and site conditions.

Notes on the stability of excavations may include.

Excavation conditions

Stable	No obvious/gross short term instability noted
Spalling	Material falling into excavation (minor/major)
Unstable	Collapse of the majority, or one or more face of the excavation

Explanatory Notes: General Soil Description

The methods of description and classification of soils used in this report are based on Australian Standard AS1726-1993 Geotechnical Site Investigations. In practice, a material is described as a soil if it can be remoulded by hand in its field condition or in water. The dominant component is shown in upper case, with secondary components in lower case. In general descriptions cover: soil type, plasticity or particle size/shape, colour, strength or density, moisture and inclusions.

In general, soil types are classified according to the dominant particle on the basis of the following particle sizes.

Soil Classification	Particle Size
CLAY	< 0.002mm
SILT	0.002mm to 0.075mm
SAND	0.075mm to 0.2mm
	fine
	medium
	coarse
GRAVEL	0.2mm to 0.6mm
	fine
	medium
	coarse
COBBLES	0.6mm to 2.36mm
BOULDERS	2.36mm to 6mm
	6mm to 20mm
	20mm to 63mm
	63mm to 200mm
	> 200mm

Soil types are qualified by the presence of minor components on the basis of field examination or the particle size distribution.

Description	Percentage of minor component
Trace	< 5% in coarse grained soils < 15% in fine grained soils
With	5% to 12% in coarse grained soils 15% to 30% in fine grained soils

The strength of cohesive soils is classified by engineering assessment or field/laboratory testing as follows.

Strength	Symbol	Undrained shear strength
Very Soft	VS	< 12kPa
Soft	S	12kPa to 25kPa
Firm	F	25kPa to 50kPa
Stiff	St	50kPa to 100kPa
Very Stiff	VSt	100kPa to 200kPa
Hard	H	> 200kPa

Cohesionless soils are classified on the basis of relative density as follows.

Relative Density	Symbol	Density Index
Very Loose	VL	< 15%
Loose	L	15% to 35%
Medium Dense	MD	35% to 65%
Dense	D	65% to 85%
Very Dense	VD	> 85%

The moisture condition of soil is described by appearance and feel and may be described in relation to the Plastic Limit (PL) or Optimum Moisture Content (OMC).

Moisture condition and description	
Dry	Cohesive soils: hard, friable, dry of plastic limit. Granular soils: cohesionless and free-running
Moist	Cool feel and darkened colour: Cohesive soils can be moulded. Granular soils tend to cohere
Wet	Cool feel and darkened colour: Cohesive soils usually weakened and free water forms when handling. Granular soils tend to cohere

The plasticity of cohesive soils is defined as follows.

Plasticity	Liquid Limit
Low plasticity	≤ 35%
Medium plasticity	> 35% ≤ 50%
High plasticity	> 50%

The structure of the soil may be described as follows.

Zoning	Description
Layer	Continuous across exposure or sample
Lens	Discontinuous layer (lenticular shape)
Pocket	Irregular inclusion of different material

The structure of soil layers may include: defects such as softened zones, fissures, cracks, joints and root-holes; and coarse grained soils may be described as strongly or weakly cemented.

The soil origin may also be noted if possible to deduce.

Soil origin and description	
Fill	Man-made deposits or disturbed material
Topsoil	Material affected by roots and root fibres
Colluvial	Transported down slopes by gravity
Aeolian	Transported and deposited by wind
Alluvial	Deposited by rivers
Lacustrine	Deposited by lakes
Marine	Deposits in beaches, bays and estuaries
Residual	Developed on weathered rock

The origin of the soil generally cannot be deduced on the appearance of the material only and may be determined based on further geological evidence or other field observation.

Explanatory Notes: General Rock Description

The methods of description and classification of rocks used in this report are based on Australian Standard AS1726-1993 Geotechnical Site Investigations. In practice, if a material cannot be remoulded by hand in its field condition or in water, it is described as a rock. In general, descriptions cover: rock type, grain size, structure, colour, degree of weathering, strength, minor components or inclusions, and where applicable, the defect types, shape, roughness and coating/infill.

Sedimentary rock types are generally described according to the predominant grain size as follows.

Rock Type	Description
CONGLOMERATE	Rounded gravel sized fragments (>2mm) cemented in a finer matrix
SANDSTONE	Sand size particles defined by the following grain sizes: fine 0.06mm to 0.2mm medium 0.2mm to 0.6mm coarse 0.6mm to 2mm
SILTSTONE	Predominately silt sized particles
SHALE	Fine particles (silt or clay) and fissile
CLAYSTONE	Predominately clay sized particles

The classification of rock weathering is described based on definitions in AS1726 and summarised as follows.

Term and symbol	Definition
Residual Soil RS	Soil developed on rock with the mass structure and substance of the parent rock no longer evident
Extremely weathered XW	Weathered to such an extent that the rock has 'soil-like' properties
Distinctly weathered DW	The strength is usually changed and may be highly discoloured. Porosity may be increased by leaching, or decreased due to deposition in pores
Slightly weathered SW	Slightly discoloured; little or no change of strength from fresh rock
Fresh Rock FR	The rock shows no sign of decomposition or staining

The rock material strength can be defined based on the point load index as follows.

Term and symbol	Point Load Index I_{s50}
Extremely low EL	< 0.03MPa
Very Low VL	0.03MPa to 0.1MPa
Low L	0.1MPa to 0.3MPa
Medium M	0.3MPa to 1MPa
High H	1MPa to 3MPa
Very High VH	3MPa to 10MPa
Extremely High EH	> 10MPa

It is important to note that the rock material strength as above is distinct from the rock mass strength which can be significantly weaker due to the effect of defects.

A preliminary assessment of rock strength may be made using the field guide detailed in AS1726, and this is conducted in the absence of point load testing.

The defect spacing and bedding thickness, measured normal to defects of the same set or bedding, is described as follows.

Definition	Defect Spacing
Thinly laminated	< 6mm
Laminated	6mm to 20mm
Very thinly bedded	20mm to 60mm
Thinly bedded	60mm to 0.2m
Medium bedded	0.2m to 0.6m
Thickly bedded	0.6m to 2m
Very thickly bedded	> 2m

Terms for describing rock and defects are as follows.

Terms			
Joint	JT	Sheared zone	SZ
Bed Parting	BP	Sheared surface	SS
Contact	CO	Seam	SM
Dyke	DK	Crushed Seam	CS
Decomposed Zone	DZ	Infilled Seam	IS
Fracture	FC	Foliation	FL
Fracture Zone	FZ	Vein	VN

The shape and roughness of defects in the rock mass are described using the following terms.

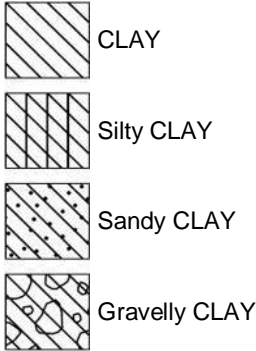
Planarity		Roughness	
Planar	PR	Very Rough	VR
Curved	CU	Rough	RF
Undulating	U	Smooth	S
Irregular	IR	Polished	POL
Stepped	ST	Slickensides	SL

The coating or infill associated with defects in the rock mass are described as follows.

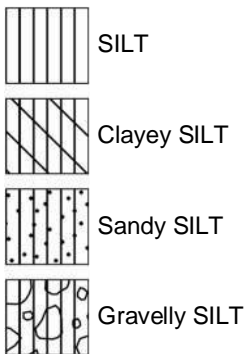
Definition	Description
Clean	No visible coating or infilling
Stain	No visible coating or infilling; surfaces discoloured by mineral staining
Veneer	Visible coating or infilling of soil or mineral substance (<1mm). If discontinuous over the plane; patchy veneer
Coating	Visible coating or infilling of soil or mineral substance (>1mm)

Graphic Symbols Index

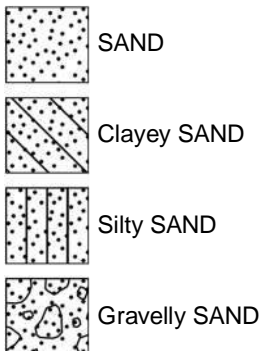
Clays



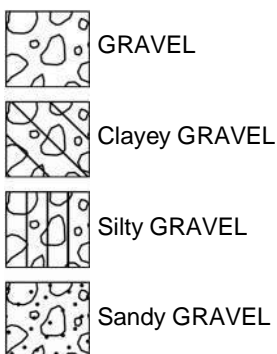
Silts



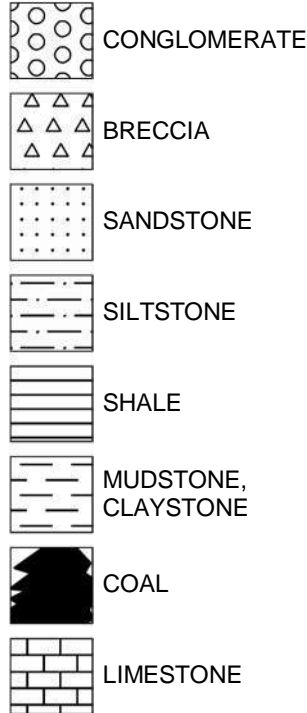
Sands



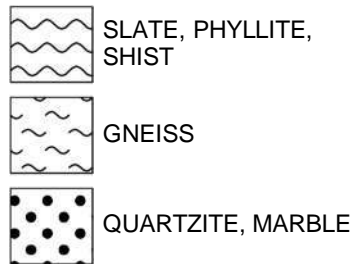
Gravels



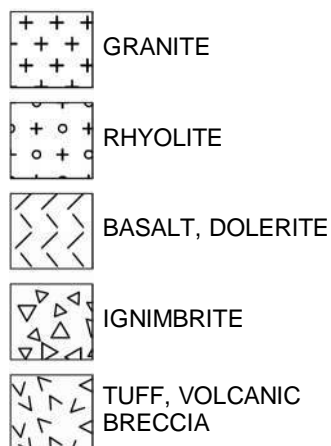
Sedimentary Rock



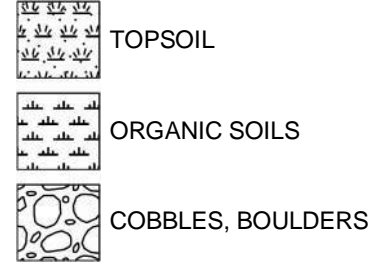
Metamorphic Rock



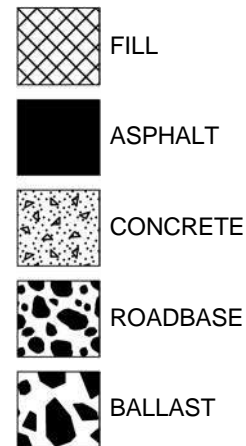
Igneous Rock



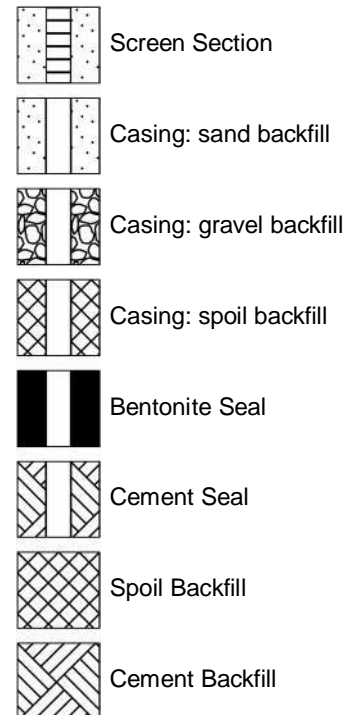
Other Soils



Fill Strata



Piezometer Symbols



APPENDIX

D

LABORATORY TESTING

	Metals							Inorganics			Organochlorine Pesticides														Organophosphorous Pesticides												
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Conductivity (1:5 aqueous extract)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	a-BHC	Aldrin	Aldrin + Dieldrin	Chlordane	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	Azinophos methyl	Chlorpyrifos	Diazinon	Dichlorvos	Dimethoate	Ethion		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	US/CM	%	pH_Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
EQL	2	0.4	5	5	5	0.1	5	5	10	1	0.1	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
0-1m CRCCARE 2011 Soil HSL for Direct Contact, HSL-A Residential																																					
0-2m NEPM 2013 EIL UR/POS, low pH, CEC, clay content - aged	100		190	60	1100		30	70							180																						
0-2m NEPM 2013 ESL UR/POS, Coarse Soil																																					
NEPM 2013 HIL, Residential A	100	20		6000	300	40	400	7400						6	50	240						10			6		10	300	20			160					
0-1m NEPM 2013 Soil HSL Residential A&B, for Vapour Intrusion, Sand																																					
1-2m																																					
2-4m																																					
>4m																																					
NEPM 2013 Management Limits, R/P&POS, Coarse Soil																																					

Field_ID	Location_Code	Sample_Depth_Range	Sampled_Date_Time	Matrix_Description	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Conductivity (1:5 aqueous extract)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	a-BHC	Aldrin	Aldrin + Dieldrin	Chlordane	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	Azinophos methyl	Chlorpyrifos	Diazinon	Dichlorvos	Dimethoate	Ethion		
DUP1	ES3		14/10/2021		3.9	<0.4	12	5.7	13	<0.1	<5	29	48	16	7	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
ES1	ES1		14/10/2021		5.5	<0.4	22	22	23	<0.1	26	110	62	15	7.4	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
ES2	ES2		14/10/2021		4.5	<0.4	13	16	13	<0.1	7.2	57	65	13	6.3	<0.05	<0.05	0.07	<0.1	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
ES3	ES3		14/10/2021		<2	<0.4	6.8	<5	7.4	<0.1	<5	38	45	14	7.3	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
TB005-1	TB005-1		20/10/2015		5	0.5	25	5.6	11	<0.01	2.1	13	-	19	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2	
TB006-1	TB006-1		20/10/2015		3	<0.3	8.8	7.3	38	0.01	1.6	130	-	20	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2
TB007-1	TB007-1		20/10/2015		5	0.3	19	14	15	<0.01	15	120	-	13	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2	
TB008-1	TB008-1		20/10/2015		<3	<0.3	1.4	0.5	<1	<0.01	<0.5	1.7	-	9.9	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2	
TB009-1	TB009-1		20/10/2015		<3	<0.3	6.3	1.5	4	<0.01	0.8	43	-	17	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2	
QA1	TB009-1		20/10/2015		<3	<0.3	6.5	1.6	4	<0.01	0.8	43	-	9.8	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2		
TB010-1	TB010-1		20/10/2015		4	<0.3	10	3.9	12	0.01	1.6	15	-	14	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2		
TB011-1	TB011-1		20/10/2015		3	<0.3	10	6.1	9	0.01	2.9	40	-	11	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2		
TB012-1	TB012-1		20/10/2015		<3	<0.3	4.3	1.9	5	0.01	0.9	6.1	-	12	-	<0.1	<0.1	<0.3	<0.2	<0.1	<0.3	<0.2	<0.2	<0.2	<0.3	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.2	<0.2	<0.5	<0.5	<0.5	<0.2		

		Pesticides				Polychlorinated Biphenyls							
		Fenitrothion	Malathion	Parathion	Priniphos-methyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0-1m	CRCCARE 2011 Soil HSL for Direct Contact, HSL-A Residential												
0-2m	NEPM 2013 EIL UR/POS, low pH, CEC, clay content - aged												
0-2m	NEPM 2013 ESL UR/POS, Coarse Soil												
	NEPM 2013 HIL, Residential A												1
0-1m	NEPM 2013 Soil HSL Residential A&B, for Vapour Intrusion, Sand												
1-2m													
2-4m													
>4m													
	NEPM 2013 Management Limits, R/P&POS, Coarse Soil												

Field_ID	Location_Code	Sample_Depth_Range	Sampled_Date_Time	Matrix_Description	Fenitrothion	Malathion	Parathion	Priniphos-methyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)
DUP1	ES3		14/10/2021		<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
ES1	ES1		14/10/2021		<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
ES2	ES2		14/10/2021		<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
ES3	ES3		14/10/2021		<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TB005-1	TB005-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB006-1	TB006-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB007-1	TB007-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB008-1	TB008-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB009-1	TB009-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
QA1	TB009-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB010-1	TB010-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB011-1	TB011-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
TB012-1	TB012-1		20/10/2015		<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1

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Project **80514013**
 Order Number **80514013**
 Samples 2

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SGS Reference **SE145132 R0**
 Date Received 22/10/2015
 Date Reported 28/10/2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

No respirable fibres detected in soil sample using trace analysis technique as per AS 4964-2004.

Sample #1: Asbestos found in 3x2mm cement sheet fragment in >2 to <7mm fraction.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES



Yusuf Kuthpudin
 Asbestos Analyst

Fibre ID in bulk materials [AN602] Tested: 28/10/2015

			AS-2
			MATERIAL
			-
			21/10/2015
			SE145132.002
PARAMETER	UOM	LOR	
Asbestos Detected	No unit	-	Yes

Gravimetric Determination of Asbestos in Soil [AN605] Tested: -

PARAMETER	UOM	LOR	AS-1 SOIL - 21/10/2015 SE145132.001
Total Sample Weight*	g	1	985
ACM in >7mm Sample*	g	0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	0.0115
AF/FA in <2mm Sample*	g	0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	0.001
Fibre Type*	No unit	-	CRY

METHOD

METHODOLOGY SUMMARY

- AN602** Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic 'clues', which provide a reasonable degree of certainty, dispersion staining is a mandatory 'clue' for positive identification. If sufficient 'clues' are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
- AN602** Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf).
- AN605** This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
- AN605** This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
- AN605** AMO = Amosite
CRY = Chrysotile
CRO = Crocidolite
- AN605** Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here:
<http://www.sgs.com.au/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf>

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Project **80514013**
 Order Number **80514013**
 Samples 1

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SGS Reference **SE145132 R0**
 Date Received 22 Oct 2015
 Date Reported 28 Oct 2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

No respirable fibres detected in soil sample using trace analysis technique as per AS 4964-2004.

Sample #1: Asbestos found in 3x2mm cement sheet fragment in >2 to <7mm fraction.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES



Yusuf Kuthpudin
 Asbestos Analyst

RESULTS

Fibre ID in bulk materials

Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification
SE145132.002	AS-2	Other	40x40x4mm cement sheet fragment	21 Oct 2015	Chrysotile Asbestos Detected

METHOD

METHODOLOGY SUMMARY

AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocally identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf).

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.

Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.

Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : [http://www.sgs.com.au/~media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf](http://www.sgs.com.au/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf)

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Project **80514013**
 Order Number **80514013**
 Samples **13**

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SGS Reference **SE145133 R0**
 Date Received **22/10/2015**
 Date Reported **28/10/2015**

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

SIGNATORIES



Andy Sutton
Senior Organic Chemist



Dong Liang
Metals/Inorganics Team Leader



Ly Kim Ha
Organic Section Head

VOC's in Soil [AN433/AN434] Tested: 25/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004	SOIL - 20/10/2015 SE145133.005	SOIL - 20/10/2015 SE145133.006	SOIL - 20/10/2015 SE145133.007
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1	Trip Blank
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011	SOIL - 20/10/2015 SE145133.012
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6

PARAMETER	UOM	LOR	Trip Spike
			SOIL - 20/10/2015 SE145133.013
Benzene	mg/kg	0.1	[92%]
Toluene	mg/kg	0.1	[100%]
Ethylbenzene	mg/kg	0.1	[98%]
m/p-xylene	mg/kg	0.2	[98%]
o-xylene	mg/kg	0.1	[99%]
Naphthalene	mg/kg	0.1	-
Total Xylenes*	mg/kg	0.3	-
Total BTEX*	mg/kg	0.6	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 25/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.003	20/10/2015 SE145133.004	20/10/2015 SE145133.005	20/10/2015 SE145133.006	20/10/2015 SE145133.007
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.008	20/10/2015 SE145133.009	20/10/2015 SE145133.010	20/10/2015 SE145133.011
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004	SOIL - 20/10/2015 SE145133.005	SOIL - 20/10/2015 SE145133.006	SOIL - 20/10/2015 SE145133.007
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004	SOIL - 20/10/2015 SE145133.005	SOIL - 20/10/2015 SE145133.006	SOIL - 20/10/2015 SE145133.007
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

Speciated Phenols in Soil [AN420] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004	SOIL - 20/10/2015 SE145133.005	SOIL - 20/10/2015 SE145133.006	SOIL - 20/10/2015 SE145133.007
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2

OC Pesticides in Soil [AN400/AN420] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL 20/10/2015 SE145133.003	SOIL 20/10/2015 SE145133.004	SOIL 20/10/2015 SE145133.005	SOIL 20/10/2015 SE145133.006	SOIL 20/10/2015 SE145133.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

OC Pesticides in Soil [AN400/AN420] Tested: 23/10/2015 (continued)

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.003	20/10/2015 SE145133.004	20/10/2015 SE145133.005	20/10/2015 SE145133.006	20/10/2015 SE145133.007
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methodathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.008	20/10/2015 SE145133.009	20/10/2015 SE145133.010	20/10/2015 SE145133.011
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methodathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2

PCBs in Soil [AN400/AN420] Tested: 23/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.003	20/10/2015 SE145133.004	20/10/2015 SE145133.005	20/10/2015 SE145133.006	20/10/2015 SE145133.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL	SOIL	SOIL	SOIL
			20/10/2015 SE145133.008	20/10/2015 SE145133.009	20/10/2015 SE145133.010	20/10/2015 SE145133.011
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE145133 R0

pH in soil (1:2) [AN101] Tested: 27/10/2015

PARAMETER	UOM	LOR	TB008 (1.8-2.0) SOIL - 20/10/2015 SE145133.001	TB013-1 SOIL - 20/10/2015 SE145133.002	TB012-1 SOIL - 20/10/2015 SE145133.003	TB006-1 SOIL - 20/10/2015 SE145133.004
pH (1:2)	pH Units	-	4.4	5.3	5.2	5.0

Conductivity (1:2) in soil [AN106] Tested: 27/10/2015

PARAMETER	UOM	LOR	TB008 (1.8-2.0)	TB013-1	TB012-1	TB006-1
			SOIL - 20/10/2015 SE145133.001	SOIL - 20/10/2015 SE145133.002	SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004
Conductivity (1:2) @25 C*	µS/cm	1	150	170	140	50
Resistivity (1:2)*	ohm cm	-	6700	5900	7100	20000



ANALYTICAL RESULTS

SE145133 R0

Soluble Anions in Soil from 1:2 DI Extract by Ion Chromatography [AN245] Tested: 26/10/2015

PARAMETER	UOM	LOR	TB008 (1.8-2.0)	TB013-1	TB012-1	TB006-1
			SOIL - 20/10/2015 SE145133.001	SOIL - 20/10/2015 SE145133.002	SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004
Chloride	mg/kg	0.25	9.6	73	48	8.7
Sulphate	mg/kg	0.5	120	36	25	9.8

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 27/10/2015

PARAMETER	UOM	LOR	TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL - 20/10/2015 SE145133.003	SOIL - 20/10/2015 SE145133.004	SOIL - 20/10/2015 SE145133.005	SOIL - 20/10/2015 SE145133.006	SOIL - 20/10/2015 SE145133.007
Arsenic, As	mg/kg	3	<3	3	5	<3	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.5	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	4.3	8.8	25	6.3	10
Copper, Cu	mg/kg	0.5	1.9	7.3	5.6	1.5	3.9
Lead, Pb	mg/kg	1	5	38	11	4	12
Nickel, Ni	mg/kg	0.5	0.9	1.6	2.1	0.8	1.6
Zinc, Zn	mg/kg	0.5	6.1	130	13	43	15

PARAMETER	UOM	LOR	QA1	TB011-1	TB007-1	TB008-1
			SOIL - 20/10/2015 SE145133.008	SOIL - 20/10/2015 SE145133.009	SOIL - 20/10/2015 SE145133.010	SOIL - 20/10/2015 SE145133.011
Arsenic, As	mg/kg	3	<3	3	5	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.3	6.5	10	19	1.4
Copper, Cu	mg/kg	0.5	1.6	6.1	14	0.5
Lead, Pb	mg/kg	1	4	9	15	<1
Nickel, Ni	mg/kg	0.5	0.8	2.9	15	<0.5
Zinc, Zn	mg/kg	0.5	43	40	120	1.7



ANALYTICAL RESULTS

SE145133 R0

Mercury in Soil [AN312] Tested: 27/10/2015

			TB012-1	TB006-1	TB005-1	TB009-1	TB010-1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
PARAMETER	UOM	LOR	SE145133.003	SE145133.004	SE145133.005	SE145133.006	SE145133.007
Mercury	mg/kg	0.01	0.01	0.01	<0.01	<0.01	0.01

			QA1	TB011-1	TB007-1	TB008-1
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			20/10/2015	20/10/2015	20/10/2015	20/10/2015
PARAMETER	UOM	LOR	SE145133.008	SE145133.009	SE145133.010	SE145133.011
Mercury	mg/kg	0.01	<0.01	0.01	<0.01	<0.01



ANALYTICAL RESULTS

SE145133 R0

Moisture Content [AN002] Tested: 25/10/2015

			TB008 (1.8-2.0)	TB013-1	TB012-1	TB006-1	TB005-1
			SOIL -	SOIL -	SOIL -	SOIL -	SOIL -
			20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
PARAMETER	UOM	LOR	SE145133.001	SE145133.002	SE145133.003	SE145133.004	SE145133.005
% Moisture	%w/w	0.5	19	20	13	9.9	17

			TB009-1	TB010-1	QA1	TB011-1	TB007-1
			SOIL -	SOIL -	SOIL -	SOIL -	SOIL -
			20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
PARAMETER	UOM	LOR	SE145133.006	SE145133.007	SE145133.008	SE145133.009	SE145133.010
% Moisture	%w/w	0.5	9.8	14	11	12	16

			TB008-1	Trip Blank
			SOIL -	SOIL -
			20/10/2015	20/10/2015
PARAMETER	UOM	LOR	SE145133.011	SE145133.012
% Moisture	%w/w	0.5	6.2	<0.5

- AN002** The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
- AN040/AN320** A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
- AN040** A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
- AN101** pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:2 and the pH determined and reported on the extract after 1 hour extraction (pH 1:2) or after 1 hour extraction and overnight aging (pH (1:2) aged). Reference APHA 4500-H+.
- AN106** Conductivity : Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$ @ 25°C. For soils, an extract with water is made at a ratio of 1:2 and the EC determined and reported on the extract basis after the 1 hour extraction (EC(1:2)) or after the 1 hour extraction and overnight aging (EC(1:2) aged). Reference APHA 2510 B.
- AN106** Resistivity of the extract is reported on the extract basis and is the reciprocal of conductivity. Salinity and TDS can be calculated from the extract conductivity and is reported back to the soil basis.
- AN245** Anions by Ion Chromatography: A water sample or extract is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO₂, NO₃ and SO₄ are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
- AN312** Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
- AN400** OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
- AN403** Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
- AN403** Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
- AN403** The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
- AN420** (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
- AN420** SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
- AN433/AN434/AN410** VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
- AN433/AN434** VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here:
<http://www.sgs.com.au/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf>

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STATEMENT OF QA/QC PERFORMANCE

SE145133 R0

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Project **80514013**
Order Number **80514013**
Samples 13

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SGS Reference **SE145133 R0**
Date Received 22 Oct 2015
Date Reported 28 Oct 2015

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS Environmental Services' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client. This QA/QC Statement must be read in conjunction with the referenced Analytical Report. The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	13 Soil	Type of documentation received	COC
Date documentation received	22/10/2015	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	20°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Conductivity (1.2) in soil

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB008 (1.8-2.0)	SE145133.001	LB088261	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015
TB013-1	SE145133.002	LB088261	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015
TB012-1	SE145133.003	LB088261	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015
TB006-1	SE145133.004	LB088261	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015	27 Oct 2015

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB006-1	SE145133.004	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB005-1	SE145133.005	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB009-1	SE145133.006	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB010-1	SE145133.007	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
QA1	SE145133.008	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB011-1	SE145133.009	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB007-1	SE145133.010	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015
TB008-1	SE145133.011	LB088240	20 Oct 2015	22 Oct 2015	17 Nov 2015	27 Oct 2015	17 Nov 2015	28 Oct 2015

Moisture Content

Method: ME-(AU)-[ENV]AN302

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB008 (1.8-2.0)	SE145133.001	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB013-1	SE145133.002	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB012-1	SE145133.003	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB006-1	SE145133.004	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB005-1	SE145133.005	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB009-1	SE145133.006	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB010-1	SE145133.007	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
QA1	SE145133.008	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB011-1	SE145133.009	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB007-1	SE145133.010	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
TB008-1	SE145133.011	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015
Trip Blank	SE145133.012	LB088089	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	30 Oct 2015	28 Oct 2015

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400-AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400-AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-JENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

PCBs in Soil

Method: ME-(AU)-JENVJAN100/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

pH in soil (1-2)

Method: ME-(AU)-JENVJAN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB008 (1.8-2.0)	SE145133.001	LB088260	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	28 Oct 2015	27 Oct 2015
TB013-1	SE145133.002	LB088260	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	28 Oct 2015	27 Oct 2015
TB012-1	SE145133.003	LB088260	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	28 Oct 2015	27 Oct 2015
TB006-1	SE145133.004	LB088260	20 Oct 2015	22 Oct 2015	27 Oct 2015	27 Oct 2015	28 Oct 2015	27 Oct 2015

Soluble Anions in Soil, from 1.2 DI Extract by Ion Chromatography

Method: ME-(AU)-JENVJAN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB008 (1.8-2.0)	SE145133.001	LB088190	20 Oct 2015	22 Oct 2015	27 Oct 2015	26 Oct 2015	23 Nov 2015	28 Oct 2015
TB013-1	SE145133.002	LB088190	20 Oct 2015	22 Oct 2015	27 Oct 2015	26 Oct 2015	23 Nov 2015	28 Oct 2015
TB012-1	SE145133.003	LB088190	20 Oct 2015	22 Oct 2015	27 Oct 2015	26 Oct 2015	23 Nov 2015	28 Oct 2015
TB006-1	SE145133.004	LB088190	20 Oct 2015	22 Oct 2015	27 Oct 2015	26 Oct 2015	23 Nov 2015	28 Oct 2015

Speciated Phenols in Soil

Method: ME-(AU)-JENVJAN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-JENVJAN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB006-1	SE145133.004	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB005-1	SE145133.005	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB009-1	SE145133.006	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB010-1	SE145133.007	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
QA1	SE145133.008	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB011-1	SE145133.009	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB007-1	SE145133.010	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015
TB008-1	SE145133.011	LB088227	20 Oct 2015	22 Oct 2015	17 Apr 2016	27 Oct 2015	17 Apr 2016	28 Oct 2015

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-JENVJAN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015



HOLDING TIME SUMMARY

SE145133 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QA1	SE145133.008	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088018	20 Oct 2015	22 Oct 2015	03 Nov 2015	23 Oct 2015	02 Dec 2015	28 Oct 2015

VOC s in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
Trip Blank	SE145133.012	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
Trip Spike	SE145133.013	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TB012-1	SE145133.003	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB006-1	SE145133.004	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB005-1	SE145133.005	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB009-1	SE145133.006	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB010-1	SE145133.007	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
QA1	SE145133.008	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB011-1	SE145133.009	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB007-1	SE145133.010	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
TB008-1	SE145133.011	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
Trip Blank	SE145133.012	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015
Trip Spike	SE145133.013	LB088081	20 Oct 2015	22 Oct 2015	03 Nov 2015	25 Oct 2015	04 Dec 2015	28 Oct 2015

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	99
	TB006-1	SE145133.004	%	60 - 130%	96
	TB005-1	SE145133.005	%	60 - 130%	97
	TB009-1	SE145133.006	%	60 - 130%	92
	TB010-1	SE145133.007	%	60 - 130%	97
	QA1	SE145133.008	%	60 - 130%	100
	TB011-1	SE145133.009	%	60 - 130%	99
	TB007-1	SE145133.010	%	60 - 130%	98
	TB008-1	SE145133.011	%	60 - 130%	100

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	84
	TB006-1	SE145133.004	%	60 - 130%	84
	TB005-1	SE145133.005	%	60 - 130%	88
	TB009-1	SE145133.006	%	60 - 130%	86
	TB010-1	SE145133.007	%	60 - 130%	80
	QA1	SE145133.008	%	60 - 130%	84
	TB011-1	SE145133.009	%	60 - 130%	84
	TB007-1	SE145133.010	%	60 - 130%	80
	TB008-1	SE145133.011	%	60 - 130%	82
d14-p-terphenyl (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	104
	TB006-1	SE145133.004	%	60 - 130%	106
	TB005-1	SE145133.005	%	60 - 130%	110
	TB009-1	SE145133.006	%	60 - 130%	110
	TB010-1	SE145133.007	%	60 - 130%	100
	QA1	SE145133.008	%	60 - 130%	108
	TB011-1	SE145133.009	%	60 - 130%	108
	TB007-1	SE145133.010	%	60 - 130%	104
	TB008-1	SE145133.011	%	60 - 130%	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TB012-1	SE145133.003	%	70 - 130%	84
	TB006-1	SE145133.004	%	70 - 130%	84
	TB005-1	SE145133.005	%	70 - 130%	88
	TB009-1	SE145133.006	%	70 - 130%	86
	TB010-1	SE145133.007	%	70 - 130%	80
	QA1	SE145133.008	%	70 - 130%	84
	TB011-1	SE145133.009	%	70 - 130%	84
	TB007-1	SE145133.010	%	70 - 130%	80
	TB008-1	SE145133.011	%	70 - 130%	82
d14-p-terphenyl (Surrogate)	TB012-1	SE145133.003	%	70 - 130%	104
	TB006-1	SE145133.004	%	70 - 130%	106
	TB005-1	SE145133.005	%	70 - 130%	110
	TB009-1	SE145133.006	%	70 - 130%	110
	TB010-1	SE145133.007	%	70 - 130%	100
	QA1	SE145133.008	%	70 - 130%	108
	TB011-1	SE145133.009	%	70 - 130%	108
	TB007-1	SE145133.010	%	70 - 130%	104
	TB008-1	SE145133.011	%	70 - 130%	104
d5-nitrobenzene (Surrogate)	TB012-1	SE145133.003	%	70 - 130%	80
	TB006-1	SE145133.004	%	70 - 130%	90
	TB005-1	SE145133.005	%	70 - 130%	86
	TB009-1	SE145133.006	%	70 - 130%	88
	TB010-1	SE145133.007	%	70 - 130%	78
	QA1	SE145133.008	%	70 - 130%	82
	TB011-1	SE145133.009	%	70 - 130%	80
	TB007-1	SE145133.010	%	70 - 130%	78
	TB008-1	SE145133.011	%	70 - 130%	78

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	99
	TB006-1	SE145133.004	%	60 - 130%	96
	TB005-1	SE145133.005	%	60 - 130%	97
	TB009-1	SE145133.006	%	60 - 130%	92
	TB010-1	SE145133.007	%	60 - 130%	97
	QA1	SE145133.008	%	60 - 130%	100
	TB011-1	SE145133.009	%	60 - 130%	99
	TB007-1	SE145133.010	%	60 - 130%	98
	TB008-1	SE145133.011	%	60 - 130%	100

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	TB012-1	SE145133.003	%	70 - 130%	96
	TB006-1	SE145133.004	%	70 - 130%	95
	TB005-1	SE145133.005	%	70 - 130%	93
	TB009-1	SE145133.006	%	70 - 130%	91
	TB010-1	SE145133.007	%	70 - 130%	91
	QA1	SE145133.008	%	70 - 130%	90
	TB011-1	SE145133.009	%	70 - 130%	93
	TB007-1	SE145133.010	%	70 - 130%	90
	TB008-1	SE145133.011	%	70 - 130%	88
	d5-phenol (Surrogate)	TB012-1	SE145133.003	%	50 - 130%
TB006-1		SE145133.004	%	50 - 130%	77
TB005-1		SE145133.005	%	50 - 130%	76
TB009-1		SE145133.006	%	50 - 130%	86
TB010-1		SE145133.007	%	50 - 130%	87
QA1		SE145133.008	%	50 - 130%	89
TB011-1		SE145133.009	%	50 - 130%	84
TB007-1		SE145133.010	%	50 - 130%	94
TB008-1		SE145133.011	%	50 - 130%	90

VOCs in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %	
Bromofluorobenzene (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	94	
	TB006-1	SE145133.004	%	60 - 130%	90	
	TB005-1	SE145133.005	%	60 - 130%	90	
	TB009-1	SE145133.006	%	60 - 130%	94	
	TB010-1	SE145133.007	%	60 - 130%	96	
	QA1	SE145133.008	%	60 - 130%	93	
	TB011-1	SE145133.009	%	60 - 130%	96	
	TB007-1	SE145133.010	%	60 - 130%	92	
	TB008-1	SE145133.011	%	60 - 130%	95	
	Trip Blank	SE145133.012	%	60 - 130%	94	
	Trip Spike	SE145133.013	%	60 - 130%	105	
	d4-1,2-dichloroethane (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	81
		TB006-1	SE145133.004	%	60 - 130%	90
TB005-1		SE145133.005	%	60 - 130%	87	
TB009-1		SE145133.006	%	60 - 130%	73	
TB010-1		SE145133.007	%	60 - 130%	86	
QA1		SE145133.008	%	60 - 130%	81	
TB011-1		SE145133.009	%	60 - 130%	79	
TB007-1		SE145133.010	%	60 - 130%	87	
TB008-1		SE145133.011	%	60 - 130%	80	
Trip Spike		SE145133.013	%	60 - 130%	77	
d8-toluene (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	89	
	TB006-1	SE145133.004	%	60 - 130%	103	
	TB005-1	SE145133.005	%	60 - 130%	98	
	TB009-1	SE145133.006	%	60 - 130%	80	
	TB010-1	SE145133.007	%	60 - 130%	96	
	QA1	SE145133.008	%	60 - 130%	92	
	TB011-1	SE145133.009	%	60 - 130%	88	

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Soil (continued)

Method: ME-(AU)-[ENV]AN433-AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	TB007-1	SE145133.010	%	60 - 130%	95
	TB008-1	SE145133.011	%	60 - 130%	87
	Trip Blank	SE145133.012	%	60 - 130%	99
	Trip Spike	SE145133.013	%	60 - 130%	83
Dibromofluoromethane (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	76
	TB006-1	SE145133.004	%	60 - 130%	88
	TB005-1	SE145133.005	%	60 - 130%	83
	TB009-1	SE145133.006	%	60 - 130%	72
	TB010-1	SE145133.007	%	60 - 130%	84
	QA1	SE145133.008	%	60 - 130%	79
	TB011-1	SE145133.009	%	60 - 130%	75
	TB007-1	SE145133.010	%	60 - 130%	86
	TB008-1	SE145133.011	%	60 - 130%	78
	Trip Blank	SE145133.012	%	60 - 130%	86
	Trip Spike	SE145133.013	%	60 - 130%	122

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433-AN434-AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TB012-1	SE145133.003	%	60 - 130%	94
	TB006-1	SE145133.004	%	60 - 130%	90
	TB005-1	SE145133.005	%	60 - 130%	90
	TB009-1	SE145133.006	%	60 - 130%	94
	TB010-1	SE145133.007	%	60 - 130%	96
	QA1	SE145133.008	%	60 - 130%	93
	TB011-1	SE145133.009	%	60 - 130%	96
	TB007-1	SE145133.010	%	60 - 130%	92
	TB008-1	SE145133.011	%	60 - 130%	95
	d4-1,2-dichloroethane (Surrogate)	TB012-1	SE145133.003	%	60 - 130%
TB006-1		SE145133.004	%	60 - 130%	90
TB005-1		SE145133.005	%	60 - 130%	87
TB009-1		SE145133.006	%	60 - 130%	73
TB010-1		SE145133.007	%	60 - 130%	86
QA1		SE145133.008	%	60 - 130%	81
TB011-1		SE145133.009	%	60 - 130%	79
TB007-1		SE145133.010	%	60 - 130%	87
TB008-1		SE145133.011	%	60 - 130%	80
d8-toluene (Surrogate)		TB012-1	SE145133.003	%	60 - 130%
	TB006-1	SE145133.004	%	60 - 130%	103
	TB005-1	SE145133.005	%	60 - 130%	98
	TB009-1	SE145133.006	%	60 - 130%	80
	TB010-1	SE145133.007	%	60 - 130%	96
	QA1	SE145133.008	%	60 - 130%	92
	TB011-1	SE145133.009	%	60 - 130%	88
	TB007-1	SE145133.010	%	60 - 130%	95
	TB008-1	SE145133.011	%	60 - 130%	87
	Dibromofluoromethane (Surrogate)	TB012-1	SE145133.003	%	60 - 130%
TB006-1		SE145133.004	%	60 - 130%	88
TB005-1		SE145133.005	%	60 - 130%	83
TB009-1		SE145133.006	%	60 - 130%	72
TB010-1		SE145133.007	%	60 - 130%	84
QA1		SE145133.008	%	60 - 130%	79
TB011-1		SE145133.009	%	60 - 130%	75
TB007-1		SE145133.010	%	60 - 130%	86
TB008-1		SE145133.011	%	60 - 130%	78

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-(ENV)AN312

Sample Number	Parameter	Units	LOR	Result
LB088240.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-(ENV)AN100/AN420

Sample Number	Parameter	Units	LOR	Result
LB088018.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	
Isodrin	mg/kg	0.1	<0.1	
Mirex	mg/kg	0.1	<0.1	
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	81

OP Pesticides in Soil

Method: ME-(AU)-(ENV)AN100/AN420

Sample Number	Parameter	Units	LOR	Result	
LB088018.001	Dichlorvos	mg/kg	0.5	<0.5	
	Dimethoate	mg/kg	0.5	<0.5	
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5	
	Fenitrothion	mg/kg	0.2	<0.2	
	Malathion	mg/kg	0.2	<0.2	
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	
	Bromophos Ethyl	mg/kg	0.2	<0.2	
	Methidathion	mg/kg	0.5	<0.5	
	Ethion	mg/kg	0.2	<0.2	
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	122

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN420

Sample Number	Parameter	Units	LOR	Result
LB088018.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB088018.001	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	92
	2-fluorobiphenyl (Surrogate)	%	-	92
	d14-p-terphenyl (Surrogate)	%	-	122

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB088018.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	81

Soluble Anions in Soil from 1:2 DI Extract by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR
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Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	
LB088018.001	Phenol	mg/kg	0.5	<0.5	
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	
	2-chlorophenol	mg/kg	0.5	<0.5	
	2,4-dimethylphenol	mg/kg	0.5	<0.5	
	2,6-dichlorophenol	mg/kg	0.5	<0.5	
	2,4-dichlorophenol	mg/kg	0.5	<0.5	
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	
	2-nitrophenol	mg/kg	0.5	<0.5	
	4-nitrophenol	mg/kg	1	<1	
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	
	Pentachlorophenol	mg/kg	0.5	<0.5	
	2,4-dinitrophenol	mg/kg	2	<2	
	4-chloro-3-methylphenol	mg/kg	2	<2	
	Surrogates	2,4,6-Tribromophenol (Surrogate)	%	-	95
		d5-phenol (Surrogate)	%	-	76

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB088227.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB088018.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB088018.001	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOCs in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	
LB088081.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
	Polycyclic VOCs	o-xylene	mg/kg	0.1	<0.1
		Naphthalene	mg/kg	0.1	<0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	90
		d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	93
		Bromofluorobenzene (Surrogate)	%	-	96
Totals	Total BTEX*	mg/kg	0.6	<0.6	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	
LB088081.001	TRH C6-C9	mg/kg	20	<20	
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	90
		d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	93

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.007	LB088240.014	Mercury	mg/kg	0.01	0.01	0.02	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.004	LB088089.011	% Moisture	%w/w	0.5	9.9	8.9	41	10
SE145139.002	LB088089.022	% Moisture	%w/w	0.5	18	18	36	4
SE145150.006	LB088089.033	% Moisture	%w/w	0.5	19.2644483362	18.75	35	3
SE145150.013	LB088089.041	% Moisture	%w/w	0.5	12.78195488722	0.331950207	38	6

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN100-AN120

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.011	LB088018.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
		Alpha BHC	mg/kg	0.1	<0.1	0	200	0
		Lindane	mg/kg	0.1	<0.1	0	200	0
		Heptachlor	mg/kg	0.1	<0.1	0	200	0
		Aldrin	mg/kg	0.1	<0.1	0	200	0
		Beta BHC	mg/kg	0.1	<0.1	0	200	0
		Delta BHC	mg/kg	0.1	<0.1	0	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
		Dieldrin	mg/kg	0.2	<0.2	0	200	0
		Endrin	mg/kg	0.2	<0.2	0	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
Methoxychlor	mg/kg	0.1	<0.1	0	200	0		
Endrin Ketone	mg/kg	0.1	<0.1	0	200	0		
Isodrin	mg/kg	0.1	<0.1	0	200	0		
Mirex	mg/kg	0.1	<0.1	0	200	0		
SE145139.001	LB088018.030	Surrogates	mg/kg	-	0.15	0.147	30	2
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.147	30	2
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
		Alpha BHC	mg/kg	0.1	<0.1	0	200	0
		Lindane	mg/kg	0.1	<0.1	0	200	0
		Heptachlor	mg/kg	0.1	<0.1	0	200	0
		Aldrin	mg/kg	0.1	<0.1	0	200	0
		Beta BHC	mg/kg	0.1	<0.1	0	200	0
		Delta BHC	mg/kg	0.1	<0.1	0	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
		Dieldrin	mg/kg	0.2	<0.2	0	200	0
		Endrin	mg/kg	0.2	<0.2	0	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN100/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145139.001	LB088018.030	p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
		Methoxychlor	mg/kg	0.1	<0.1	0	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
		Isodrin	mg/kg	0.1	<0.1	0	200	0
		Mirex	mg/kg	0.1	<0.1	0	200	0
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.168	30	13	

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN100/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE145133.011	LB088018.014	Dichlorvos	mg/kg	0.5	<0.5	0.02	200	0	
		Dimethoate	mg/kg	0.5	<0.5	0	200	0	
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.01	200	0	
		Fenitrothion	mg/kg	0.2	<0.2	0	200	0	
		Malathion	mg/kg	0.2	<0.2	0	200	0	
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0	
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.02	200	0	
		Bromophos Ethyl	mg/kg	0.2	<0.2	0.02	200	0	
		Methodathion	mg/kg	0.5	<0.5	0.03	200	0	
		Ethion	mg/kg	0.2	<0.2	0	200	0	
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0	
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.41	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.53	30	2
		SE145139.001	LB088018.023	Dichlorvos	mg/kg	0.5	<0.5	0.01	200
Dimethoate	mg/kg			0.5	<0.5	0	200	0	
Diazinon (Dimpylate)	mg/kg			0.5	<0.5	0.01	200	0	
Fenitrothion	mg/kg			0.2	<0.2	0	200	0	
Malathion	mg/kg			0.2	<0.2	0	200	0	
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg			0.2	<0.2	0.01	200	0	
Parathion-ethyl (Parathion)	mg/kg			0.2	<0.2	0	200	0	
Bromophos Ethyl	mg/kg			0.2	<0.2	0.02	200	0	
Methodathion	mg/kg			0.5	<0.5	0	200	0	
Ethion	mg/kg			0.2	<0.2	0	200	0	
Azinphos-methyl (Guthion)	mg/kg			0.2	<0.2	0	200	0	
Surrogates	2-fluorobiphenyl (Surrogate)			mg/kg	-	0.4	0.42	30	2
	d14-p-terphenyl (Surrogate)			mg/kg	-	0.5	0.54	30	0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN100

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.011	LB088018.014	Naphthalene	mg/kg	0.1	<0.1	0	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0	200	0
		Fluorene	mg/kg	0.1	<0.1	0	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0	200	0
		Anthracene	mg/kg	0.1	<0.1	0	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Pyrene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	200	0
		Chrysene	mg/kg	0.1	<0.1	0	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	0.01	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	0	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	0	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	0.121	175	0
		Total PAH	mg/kg	0.8	<0.8	0.02	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE145133.011	LB088018.014	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.39	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.41	30	0	
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.53	30	2	
SE145139.001	LB088018.023	Naphthalene	mg/kg	0.1	<0.1	0	200	0	
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0	
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0	
		Acenaphthylene	mg/kg	0.1	<0.1	0	200	0	
		Acenaphthene	mg/kg	0.1	<0.1	0	200	0	
		Fluorene	mg/kg	0.1	<0.1	0	200	0	
		Phenanthrene	mg/kg	0.1	<0.1	0	200	0	
		Anthracene	mg/kg	0.1	<0.1	0	200	0	
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0	
		Pyrene	mg/kg	0.1	<0.1	0	200	0	
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0	200	0	
		Chrysene	mg/kg	0.1	<0.1	0	200	0	
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0	
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0	
		Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0	
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0	
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	0	200	0	
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	0	200	0	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	0.242	134	0	
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	0.121	175	0			
		Total PAH	mg/kg	0.8	<0.8	0	200	0	
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.42	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.54	30	0

PCBs in Soil

Method: ME-(AU)-[ENV]AN100-AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %			
SE145133.011	LB088018.013	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1221	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1232	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1242	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1248	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1254	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1260	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1262	mg/kg	0.2	<0.2	0	200	0			
		Arochlor 1268	mg/kg	0.2	<0.2	0	200	0			
				Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0	
				Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.147	30	2
		SE145139.001	LB088018.022	Arochlor 1016	mg/kg	0.2	<0.2	0	200	0	
				Arochlor 1221	mg/kg	0.2	<0.2	0	200	0	
Arochlor 1232	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1242	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1248	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1254	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1260	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1262	mg/kg			0.2	<0.2	0	200	0			
Arochlor 1268	mg/kg			0.2	<0.2	0	200	0			
				Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0	
				Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.168	30	13

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.011	LB088018.012	Phenol	mg/kg	0.5	<0.5	0	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	0	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	0	200	0
		Total Cresol	mg/kg	1.5	<1.5	0	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	0	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.011	LB088018.012	2,6-dichlorophenol	mg/kg	0.5	<0.5	0	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	0	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	0	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	0	200	0
		4-nitrophenol	mg/kg	1	<1	0	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	0	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	0	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	0	200	0
		2,4-dinitrophenol	mg/kg	2	<2	0	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	0	200	0
Surrogates		2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.4	4.43	30	0
		d5-phenol (Surrogate)	mg/kg	-	1.8	1.61	30	11

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN010-AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE145133.010	LB088227.014	Arsenic, As	mg/kg	3	5	5	51	4
		Cadmium, Cd	mg/kg	0.3	0.3	0.3	118	1
		Chromium, Cr	mg/kg	0.3	19	18	33	2
		Copper, Cu	mg/kg	0.5	14	16	33	10
		Lead, Pb	mg/kg	1	15	15	37	4
		Nickel, Ni	mg/kg	0.5	15	15	33	1
SE145150.004	LB088227.024	Zinc, Zn	mg/kg	0.5	120	120	32	3
		Cadmium, Cd	mg/kg	0.3	0.25829350290.3426953856	130	13	
		Chromium, Cr	mg/kg	0.3	26.26622375321.1552618514	32	22	
		Copper, Cu	mg/kg	0.5	4.14785855692.7285745693	45	41	
		Lead, Pb	mg/kg	1	37.13872631865.397924752	30	26	
		Zinc, Zn	mg/kg	0.5	14.82973165122.3640449752	45	18	

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %		
SE145133.011	LB088018.014	TRH C10-C14	mg/kg	20	<20	0	200	0		
		TRH C15-C28	mg/kg	45	<45	0	200	0		
		TRH C29-C36	mg/kg	45	<45	0	200	0		
		TRH C37-C40	mg/kg	100	<100	0	200	0		
		TRH C10-C36 Total	mg/kg	110	<110	0	200	0		
		TRH C10-C40 Total	mg/kg	210	<210	0	200	0		
		TRH F Bands		TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
				TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
				TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
				TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE145139.001	LB088018.023	TRH C10-C14	mg/kg	20	<20	0	200	0		
		TRH C15-C28	mg/kg	45	<45	0	200	0		
		TRH C29-C36	mg/kg	45	<45	0	200	0		
		TRH C37-C40	mg/kg	100	<100	0	200	0		
		TRH C10-C36 Total	mg/kg	110	<110	0	200	0		
		TRH C10-C40 Total	mg/kg	210	<210	0	200	0		
		TRH F Bands		TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
				TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
				TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
				TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0

VOC s in Soil

Method: ME-(AU)-[ENV]AN433-AN434

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE145133.011	LB088081.026	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	0.01	200	0
			Toluene	mg/kg	0.1	<0.1	0.01	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	0	200	0
			m/p-xylene	mg/kg	0.2	<0.2	0	200	0
			o-xylene	mg/kg	0.1	<0.1	0	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	0.06	200	0
			Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.52	50
		d4-1,2-dichloroethane (Surrogate)		mg/kg	-	4.0	4.77	50	18
		d8-toluene (Surrogate)		mg/kg	-	4.4	4.33	50	1

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = |OriginalResult - ReplicateResult| \times 100 / Mean$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times SDL / Mean + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE145133.011	LB088081.026	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	4.22	50	12
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	0	200	0
			Total BTEX*	mg/kg	0.6	<0.6	0.02	200	0
SE145164.004	LB088081.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.1	50
		d4-1,2-dichloroethane (Surrogate)		mg/kg	-	4.1	4.5	50	9
		d8-toluene (Surrogate)		mg/kg	-	3.9	4.2	50	8
		Bromofluorobenzene (Surrogate)		mg/kg	-	4.7	4.5	50	4
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0		

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE145133.011	LB088081.026		TRH C6-C10	mg/kg	25	<25	3.49	200	0
			TRH C6-C9	mg/kg	20	<20	3.29	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	4.52	30	14
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	4.86	30	19
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.33	30	1
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	4.22	30	12
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	0	200	0
TRH C6-C10 minus BTEX (F1)	mg/kg		25	<25	3.48	200	0		
SE145164.004	LB088081.025		TRH C6-C10	mg/kg	25	<0	0	200	0
			TRH C6-C9	mg/kg	20	<0	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.07	30	7
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.52	30	9
			d8-toluene (Surrogate)	mg/kg	-	3.9	4.15	30	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	4.54	30	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0	0	200	0
TRH C6-C10 minus BTEX (F1)	mg/kg		25	<0	0	200	0		

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088240.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN100-AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088018.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	96
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	98
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	93
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	93
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	99
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	91
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	95

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN100-AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088018.002	Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	74
	Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	92
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	87
	Ethion	mg/kg	0.2	1.6	2	60 - 140	81
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB088018.002	Naphthalene	mg/kg	0.1	4.2	4	60 - 140	105	
	Acenaphthylene	mg/kg	0.1	4.2	4	60 - 140	104	
	Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104	
	Phenanthrene	mg/kg	0.1	4.2	4	60 - 140	105	
	Anthracene	mg/kg	0.1	4.5	4	60 - 140	112	
	Fluoranthene	mg/kg	0.1	4.5	4	60 - 140	114	
	Pyrene	mg/kg	0.1	4.3	4	60 - 140	107	
	Benzo(a)pyrene	mg/kg	0.1	4.9	4	60 - 140	122	
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94	

PCBs in Soil

Method: ME-(AU)-[ENV]AN400-AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088018.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	99

Soluble Anions in Soil: from 1:2 DI Extract by Ion Chromatography

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088190.002	Chloride	mg/kg	0.25	NA	40	70 - 130	107
	Sulphate	mg/kg	0.5	NA	40	70 - 130	104

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB088018.002	Phenol	mg/kg	0.5	0.8	1	70 - 130	80	
	2,4-dichlorophenol	mg/kg	0.5	0.8	1	70 - 130	75	
	2,4,6-trichlorophenol	mg/kg	0.5	0.9	1	70 - 130	90	
	Pentachlorophenol	mg/kg	0.5	0.7	1	70 - 130	70	
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.8	5	40 - 130	97
		d5-phenol (Surrogate)	mg/kg	-	1.6	2	40 - 130	81

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040-AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088227.002	Arsenic, As	mg/kg	3	48	50	80 - 120	97
	Cadmium, Cd	mg/kg	0.3	51	50	80 - 120	101
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	102

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Metals in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB088227.002	Lead, Pb	mg/kg	1	50	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	50	50	80 - 120	99
	Zinc, Zn	mg/kg	0.5	51	50	80 - 120	102

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB088018.002	TRH C10-C14	mg/kg	20	39	40	60 - 140	98	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	95	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	78	
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	40	40	60 - 140	100
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	88	
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	70	

VOC s in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB088081.002	Monocyclic	Benzene	mg/kg	0.1	2.4	2.9	60 - 140	82
		Aromatic	Toluene	mg/kg	0.1	2.4	2.9	60 - 140
	Ethylbenzene		mg/kg	0.1	2.2	2.9	60 - 140	74
	m/p-xylene		mg/kg	0.2	4.5	5.8	60 - 140	77
	Surrogates	o-xylene	mg/kg	0.1	2.2	2.9	60 - 140	76
		Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.8	5	60 - 140	97
		d8-toluene (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	5	60 - 140	89

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB088081.002	TRH C6-C10	TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	85
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	71
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.8	5	60 - 140	97
		d8-toluene (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
		VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE145078.023	LB088240.004	Mercury	mg/kg	0.01	0.20	0.05196198402	0.2	72

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400-AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE145133.003	LB088018.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	<0.1	0.2	90
		Aldrin	mg/kg	0.1	<0.1	0.2	95
		Beta BHC	mg/kg	0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	<0.1	0.2	89
		Heptachlor epoxide	mg/kg	0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	<0.2	0.2	92
		Endrin	mg/kg	0.2	<0.2	0.2	96
		o,p'-DDD	mg/kg	0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	<0.1	0.2	76
		Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	-	-
Methoxychlor	mg/kg	0.1	<0.1	-	-		
Endrin Ketone	mg/kg	0.1	<0.1	-	-		
Isodrin	mg/kg	0.1	<0.1	-	-		
Mirex	mg/kg	0.1	<0.1	-	-		
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	-	95	

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400-AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE145133.003	LB088018.004	Dichlorvos	mg/kg	0.5	<0.5	2	110	
		Dimethoate	mg/kg	0.5	<0.5	-	-	
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	93	
		Fenitrothion	mg/kg	0.2	<0.2	-	-	
		Malathion	mg/kg	0.2	<0.2	-	-	
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	96	
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	-	-	
		Bromophos Ethyl	mg/kg	0.2	<0.2	-	-	
		Methodathion	mg/kg	0.5	<0.5	-	-	
		Ethion	mg/kg	0.2	<0.2	2	91	
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-	
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	96	

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE145133.003	LB088018.004	Naphthalene	mg/kg	0.1	<0.1	4	107
		2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	<0.1	4	106
		Acenaphthene	mg/kg	0.1	<0.1	4	103
		Fluorene	mg/kg	0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	<0.1	4	100
		Anthracene	mg/kg	0.1	<0.1	4	106
		Fluoranthene	mg/kg	0.1	<0.1	4	112

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE145133.003	LB088018.004	Pyrene	mg/kg	0.1	<0.1	4	105	
		Benzo(a)anthracene	mg/kg	0.1	<0.1	-	-	
		Chrysene	mg/kg	0.1	<0.1	-	-	
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	-	-	
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	-	-	
		Benzo(a)pyrene	mg/kg	0.1	<0.1	4	115	
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-	
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	-	-	
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ	0.2	<0.2	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	-	-	
		Total PAH	mg/kg	0.8	<0.8	-	-	
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	86
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	82
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	96

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE145133.003	LB088018.004	Arochlor 1016	mg/kg	0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	<0.2	0.4	92
		Arochlor 1262	mg/kg	0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	-

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE145098.003	LB088227.004	Cadmium, Cd	mg/kg	0.3	48	0.78540879729	50	94

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE145133.003	LB088018.004	TRH C10-C14	mg/kg	20	<20	40	108	
		TRH C15-C28	mg/kg	45	<45	40	108	
		TRH C29-C36	mg/kg	45	<45	40	78	
		TRH C37-C40	mg/kg	100	<100	-	-	
		TRH C10-C36 Total	mg/kg	110	<110	-	-	
		TRH C10-C40 Total	mg/kg	210	<210	-	-	
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	108
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	98
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC s in Soil

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE145133.003	LB088018.004	Monocyclic	Benzene	mg/kg	0.1	1.9	<0.1	2.9	67
			Aromatic	Toluene	mg/kg	0.1	2.1	<0.1	2.9
		Ethylbenzene		mg/kg	0.1	2.0	<0.1	2.9	69
		m/p-xylene		mg/kg	0.2	4.4	<0.2	5.8	75
		o-xylene		mg/kg	0.1	2.1	<0.1	2.9	73
		Polycyclic		Naphthalene	mg/kg	0.1	<0.1	<0.1	-
			Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	3.8	-
		d4-1,2-dichloroethane (Surrogate)		mg/kg	-	4.6	4.0	-	92
		d8-toluene (Surrogate)		mg/kg	-	5.4	4.5	-	108
		Bromofluorobenzene (Surrogate)		mg/kg	-	5.9	4.7	-	117

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE145133.003	LB088081.004	Totals						
		Total Xylenes*	mg/kg	0.3	6.5	<0.3	-	-
		Total BTEX*	mg/kg	0.6	12	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE145133.003	LB088081.004	TRH C6-C10	mg/kg	25	<25	<25	24.65	82	
		TRH C6-C9	mg/kg	20	<20	<20	23.2	77	
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.5	3.8	-	91
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	4.0	-	92
			d8-toluene (Surrogate)	mg/kg	-	5.4	4.5	-	108
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.9	4.7	-	117
		VPH F	Benzene (F0)	mg/kg	0.1	1.9	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	107

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
- Sample not analysed for this analyte.

- IS Insufficient sample for analysis.
- LNR Sample listed, but not received.
- LOR Limit of reporting.
- QFH QC result is above the upper tolerance.
- QFL QC result is below the lower tolerance.

- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to Analytical Report comments for further information.

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CERTIFICATE OF ANALYSIS

136251

Client:

Cardno Geotech Solutions
PO Box 4224
Edgeworth
NSW 2285

Attention: Alireza Mohiti

Sample log in details:

Your Reference: **80514013**
No. of samples: 1 soil
Date samples received / completed instructions received 22/10/15 / 22/10/15

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data. Samples were analysed as received from the client. Results relate specifically to the samples as received. Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date: 29/10/15 / 27/10/15
Date of Preliminary Report: Not Issued
NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:


Jacinta Hurst
Laboratory Manager

Envirolab Reference: 136251
Revision No: R 00



vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	136251-1
Your Reference	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date extracted	-	23/10/2015
Date analysed	-	24/10/2015
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	104

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	136251-1
Your Reference:	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date extracted	-	23/10/2015
Date analysed	-	23/10/2015
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	86

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	136251-1 QA2 20/10/2015 soil
Date extracted	-	23/10/2015
Date analysed	-	24/10/2015
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94

Organochlorine Pesticides in soil	UNITS	136251-1
Our Reference:	-----	QA2
Your Reference	-----	20/10/2015
Date Sampled		soil
Type of sample		
Date extracted	-	23/10/2015
Date analysed	-	24/10/2015
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCMX	%	110

Organophosphorus Pesticides		
Our Reference:	UNITS	136251-1
Your Reference	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date extracted	-	23/10/2015
Date analysed	-	24/10/2015
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	110

PCBs in Soil		
Our Reference:	UNITS	136251-1
Your Reference:	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date extracted	-	23/10/2015
Date analysed	-	24/10/2015
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Surrogate TCLMX	%	110

Acid Extractable metals in soil		
Our Reference:	UNITS	136251-1
Your Reference	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date prepared	-	23/10/2015
Date analysed	-	26/10/2015
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	5
Copper	mg/kg	1
Lead	mg/kg	4
Mercury	mg/kg	<0.1
Nickel	mg/kg	<1
Zinc	mg/kg	42

Moisture		
Our Reference:	UNITS	136251-1
Your Reference	-----	QA2
Date Sampled	-----	20/10/2015
Type of sample		soil
Date prepared	-	23/10/2015
Date analysed	-	26/10/2015
Moisture	%	9.1

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore " Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			24/10/2015	[NT]	[NT]	LCS-3	24/10/2015
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	110%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	110%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-3	116%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-3	107%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	108%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-3	110%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	112%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	115	[NT]	[NT]	LCS-3	113%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	107%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	99%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	93%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	107%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	99%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	93%
Surrogate o-Terphenyl	%		Org-003	91	[NT]	[NT]	LCS-3	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			24/10/2015	[NT]	[NT]	LCS-3	24/10/2015
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	96%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	109%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	98%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	97%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	103%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-3	123%
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

Client Reference: 80514013

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-3	111%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	92	[NT]	[NT]	LCS-3	97%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			24/10/2015	[NT]	[NT]	LCS-3	24/10/2015
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	92%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	89%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	96%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	94%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	95%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	87%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	98%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	98%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	91%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	97%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	110	[NT]	[NT]	LCS-3	128%

Client Reference: 80514013

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			24/10/2015	[NT]	[NT]	LCS-3	24/10/2015
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	100%
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	99%
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	117%
Dimethoate	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	104%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	119%
Malathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	110%
Parathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-3	74%
Ronnel	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-008	110	[NT]	[NT]	LCS-3	128%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			24/10/2015	[NT]	[NT]	LCS-3	24/10/2015
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-3	114%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	110	[NT]	[NT]	LCS-3	112%

Client Reference: 80514013

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date prepared	-			23/10/2015	[NT]	[NT]	LCS-3	23/10/2015
Date analysed	-			26/10/2015	[NT]	[NT]	LCS-3	26/10/2015
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	113%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-3	107%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	107%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	107%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	108%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	119%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	105%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	107%

Report Comments:

Asbestos ID was analysed by Approved Identifier: Not applicable for this job
Asbestos ID was authorised by Approved Signatory: Not applicable for this job

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Cardno (NSW/ACT) Pty Ltd
 Level 9, 203 Pacific Highway
 St Leonards
 NSW 2065



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: Kosta Sykiotis

Report 832389-S
 Project name 80519020
 Project ID 80519020
 Received Date Oct 15, 2021

Client Sample ID			ES1	ES2	ES3	DUP1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N21-Oc31203	N21-Oc31204	N21-Oc31205	N21-Oc31206
Date Sampled			Oct 14, 2021	Oct 14, 2021	Oct 14, 2021	Oct 14, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	65	71	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	65	71	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	88	93	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			ES1	ES2	ES3	DUP1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N21-Oc31203	N21-Oc31204	N21-Oc31205	N21-Oc31206
Date Sampled			Oct 14, 2021	Oct 14, 2021	Oct 14, 2021	Oct 14, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	143	146	140	135
p-Terphenyl-d14 (surr.)	1	%	133	137	141	120
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	0.07	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	0.07	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	103	96	114	134
Tetrachloro-m-xylene (surr.)	1	%	72	81	126	126
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			ES1	ES2	ES3	DUP1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			N21-Oc31203	N21-Oc31204	N21-Oc31205	N21-Oc31206
Date Sampled			Oct 14, 2021	Oct 14, 2021	Oct 14, 2021	Oct 14, 2021
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	75	73	79	109
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	103	96	114	134
Tetrachloro-m-xylene (surr.)	1	%	72	81	126	126
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Physical Properties						
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	62	65	45	48
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.4	6.3	7.3	7.0
% Moisture	1	%	15	13	14	16
Heavy Metals						
Arsenic	2	mg/kg	5.5	4.5	< 2	3.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	22	13	6.8	12
Copper	5	mg/kg	22	16	< 5	5.7
Lead	5	mg/kg	23	13	7.4	13
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	26	7.2	< 5	< 5
Zinc	5	mg/kg	110	57	38	29

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Oct 21, 2021	14 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Oct 21, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Oct 21, 2021	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Oct 21, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Oct 21, 2021	14 Days
Conductivity (1:5 aqueous extract at 25°C as rec.) - Method: LTM-INO-4030 Conductivity	Melbourne	Oct 21, 2021	7 Days
pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Oct 21, 2021	7 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Oct 21, 2021	28 Days
Eurofins Suite B15			
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	Oct 21, 2021	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)	Melbourne	Oct 21, 2021	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)	Melbourne	Oct 21, 2021	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Oct 15, 2021	14 Days

Company Name:	Cardno (NSW/ACT) Pty Ltd	Order No.:		Received:	Oct 15, 2021 8:30 AM
Address:	Level 9, 203 Pacific Highway St Leonards NSW 2065	Report #:	832389	Due:	Oct 22, 2021
Project Name:	80519020	Phone:	0294967700	Priority:	5 Day
Project ID:	80519020	Fax:	02 9499 3902	Contact Name:	Kosta Sykiotis

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Eurofins Suite B15	Moisture Set	ENM Exemption Suite -The excavated natural material order 2014 NSW
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217								
Brisbane Laboratory - NATA # 1261 Site # 20794								
Mayfield Laboratory - NATA # 1261 Site # 25079								
Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	ES1	Oct 14, 2021		Soil	N21-Oc31203	X	X	X
2	ES2	Oct 14, 2021		Soil	N21-Oc31204	X	X	X
3	ES3	Oct 14, 2021		Soil	N21-Oc31205	X	X	X
4	DUP1	Oct 14, 2021		Soil	N21-Oc31206	X	X	X
Test Counts						4	4	4

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR : No Limit

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

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

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

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs..

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	84			70-130	Pass	
TRH C10-C14	%	125			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	96			70-130	Pass	
Ethylbenzene	%	77			70-130	Pass	
m&p-Xylenes	%	75			70-130	Pass	
Xylenes - Total*	%	75			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	102			70-130	Pass	
Acenaphthylene	%	111			70-130	Pass	
Anthracene	%	111			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	93			70-130	Pass	
Benzo(b&j)fluoranthene	%	115			70-130	Pass	
Benzo(g,h,i)perylene	%	93			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a,h)anthracene	%	104			70-130	Pass	
Fluoranthene	%	103			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	122			70-130	Pass	
Phenanthrene	%	106			70-130	Pass	
Pyrene	%	107			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	95			70-130	Pass	
4,4'-DDD	%	124			70-130	Pass	
4,4'-DDE	%	101			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
4.4'-DDT	%	82			70-130	Pass		
a-HCH	%	98			70-130	Pass		
Aldrin	%	96			70-130	Pass		
b-HCH	%	87			70-130	Pass		
d-HCH	%	97			70-130	Pass		
Dieldrin	%	74			70-130	Pass		
Endosulfan I	%	99			70-130	Pass		
Endosulfan II	%	99			70-130	Pass		
Endosulfan sulphate	%	88			70-130	Pass		
Endrin	%	96			70-130	Pass		
Endrin aldehyde	%	88			70-130	Pass		
Endrin ketone	%	89			70-130	Pass		
g-HCH (Lindane)	%	101			70-130	Pass		
Heptachlor	%	74			70-130	Pass		
Heptachlor epoxide	%	88			70-130	Pass		
Hexachlorobenzene	%	72			70-130	Pass		
Methoxychlor	%	87			70-130	Pass		
LCS - % Recovery								
Organophosphorus Pesticides								
Diazinon	%	115			70-130	Pass		
Dimethoate	%	103			70-130	Pass		
Ethion	%	99			70-130	Pass		
Fenitrothion	%	95			70-130	Pass		
Methyl parathion	%	103			70-130	Pass		
Mevinphos	%	114			70-130	Pass		
LCS - % Recovery								
Polychlorinated Biphenyls								
Aroclor-1260	%	78			70-130	Pass		
LCS - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions								
TRH >C10-C16	%	128			70-130	Pass		
LCS - % Recovery								
Heavy Metals								
Arsenic	%	94			80-120	Pass		
Cadmium	%	92			80-120	Pass		
Chromium	%	98			80-120	Pass		
Copper	%	96			80-120	Pass		
Lead	%	96			80-120	Pass		
Mercury	%	96			80-120	Pass		
Nickel	%	96			80-120	Pass		
Zinc	%	96			80-120	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions								
				Result 1				
TRH C6-C9	N21-Oc28498	NCP	%	77		70-130	Pass	
TRH C10-C14	L21-Oc36851	NCP	%	111		70-130	Pass	
Spike - % Recovery								
BTEX								
				Result 1				
Benzene	N21-Oc28498	NCP	%	76		70-130	Pass	
Toluene	N21-Oc28498	NCP	%	91		70-130	Pass	
Ethylbenzene	N21-Oc28498	NCP	%	83		70-130	Pass	
m&p-Xylenes	N21-Oc28498	NCP	%	80		70-130	Pass	
o-Xylene	N21-Oc28498	NCP	%	86		70-130	Pass	
Xylenes - Total*	N21-Oc28498	NCP	%	82		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	N21-Oc28498	NCP	%	94		70-130	Pass	
TRH C6-C10	N21-Oc28498	NCP	%	84		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	M21-Oc37953	NCP	%	92		70-130	Pass	
Acenaphthylene	M21-Oc37953	NCP	%	108		70-130	Pass	
Anthracene	M21-Oc37953	NCP	%	116		70-130	Pass	
Benzo(a)anthracene	M21-Oc37953	NCP	%	74		70-130	Pass	
Benzo(a)pyrene	M21-Oc37953	NCP	%	115		70-130	Pass	
Benzo(b&i)fluoranthene	M21-Oc37953	NCP	%	93		70-130	Pass	
Benzo(g,h,i)perylene	M21-Oc37953	NCP	%	91		70-130	Pass	
Benzo(k)fluoranthene	M21-Oc37953	NCP	%	91		70-130	Pass	
Chrysene	M21-Oc37953	NCP	%	91		70-130	Pass	
Dibenz(a,h)anthracene	M21-Oc37953	NCP	%	88		70-130	Pass	
Fluoranthene	M21-Oc37953	NCP	%	94		70-130	Pass	
Fluorene	M21-Oc37953	NCP	%	126		70-130	Pass	
Indeno(1,2,3-cd)pyrene	M21-Oc37953	NCP	%	102		70-130	Pass	
Naphthalene	M21-Oc37953	NCP	%	126		70-130	Pass	
Phenanthrene	M21-Oc37953	NCP	%	86		70-130	Pass	
Pyrene	M21-Oc37953	NCP	%	99		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides				Result 1				
Chlordanes - Total	B21-Oc31708	NCP	%	97		70-130	Pass	
4,4'-DDD	B21-Oc31708	NCP	%	112		70-130	Pass	
4,4'-DDE	B21-Oc31708	NCP	%	106		70-130	Pass	
4,4'-DDT	B21-Oc31708	NCP	%	86		70-130	Pass	
a-HCH	B21-Oc31708	NCP	%	104		70-130	Pass	
Aldrin	B21-Oc31708	NCP	%	86		70-130	Pass	
b-HCH	B21-Oc31708	NCP	%	82		70-130	Pass	
d-HCH	B21-Oc31708	NCP	%	86		70-130	Pass	
Dieldrin	B21-Oc31708	NCP	%	75		70-130	Pass	
Endosulfan I	B21-Oc31708	NCP	%	121		70-130	Pass	
Endosulfan II	B21-Oc31708	NCP	%	97		70-130	Pass	
Endosulfan sulphate	B21-Oc31708	NCP	%	104		70-130	Pass	
Endrin	B21-Oc31708	NCP	%	73		70-130	Pass	
Endrin aldehyde	B21-Oc31708	NCP	%	75		70-130	Pass	
Endrin ketone	B21-Oc31708	NCP	%	106		70-130	Pass	
g-HCH (Lindane)	B21-Oc31708	NCP	%	79		70-130	Pass	
Heptachlor	B21-Oc31708	NCP	%	104		70-130	Pass	
Heptachlor epoxide	B21-Oc31708	NCP	%	82		70-130	Pass	
Hexachlorobenzene	B21-Oc31708	NCP	%	86		70-130	Pass	
Methoxychlor	B21-Oc31708	NCP	%	80		70-130	Pass	
Spike - % Recovery								
Organophosphorus Pesticides				Result 1				
Diazinon	B21-Oc31708	NCP	%	93		70-130	Pass	
Dimethoate	B21-Oc31708	NCP	%	96		70-130	Pass	
Ethion	B21-Oc31708	NCP	%	120		70-130	Pass	
Fenitrothion	B21-Oc31708	NCP	%	101		70-130	Pass	
Methyl parathion	B21-Oc31708	NCP	%	87		70-130	Pass	
Mevinphos	B21-Oc31708	NCP	%	109		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	L21-Oc36851	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Oc45271	NCP	%	100			75-125	Pass	
Cadmium	M21-Oc45271	NCP	%	99			75-125	Pass	
Chromium	M21-Oc45271	NCP	%	106			75-125	Pass	
Copper	M21-Oc45271	NCP	%	106			75-125	Pass	
Lead	M21-Oc45271	NCP	%	108			75-125	Pass	
Mercury	M21-Oc45271	NCP	%	110			75-125	Pass	
Nickel	M21-Oc45271	NCP	%	104			75-125	Pass	
Zinc	M21-Oc45271	NCP	%	107			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Oc40371	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	L21-Oc36850	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	L21-Oc36850	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	L21-Oc36850	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Oc40371	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Oc40371	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Oc40371	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Oc40371	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Oc40371	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Oc40371	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Oc40371	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Oc40371	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
a-HCH	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M21-Oc37702	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M21-Oc37702	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	M21-Oc37702	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfthion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	M21-Oc37702	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	M21-Oc37702	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	M21-Oc37702	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	M21-Oc37702	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	L21-Oc36850	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	L21-Oc36850	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	L21-Oc36850	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Conductivity (1:5 aqueous extract at 25°C as rec.)	N21-Oc31203	CP	uS/cm	62	69	10	30%	Pass
pH (1:5 Aqueous extract at 25°C as rec.)	N21-Oc31203	CP	pH Units	7.4	7.3	pass	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M21-Oc45270	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	M21-Oc45270	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M21-Oc45270	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	M21-Oc45270	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	M21-Oc45270	NCP	mg/kg	6.9	6.9	<1	30%	Pass
Mercury	M21-Oc45270	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	M21-Oc45270	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	M21-Oc45270	NCP	mg/kg	15	15	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	N21-Oc31204	CP	%	13	12	7.0	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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APPENDIX

E

PHOTOGRAPHS



Photograph 1: Fill Stockpile (see OIN 1 on Figure 2 in Appendix A).



Photograph 2: Large Fill Stockpile (see OIN 2 on Figure 2 in Appendix A).



Photograph 3: Abandoned Residential Dwelling (see OIN 4 on Figure 2 in Appendix A).



Photograph 4: Scattered Fibrous Material (see OIN 5 on Figure 2 in Appendix A).



Photograph 5: Stockpile Covered with Vegetation (see OIN 6 on Figure 2 in Appendix A).



Photograph 6: Household Refuse and Garden Waster (see OIN 9 on Figure 2 in Appendix A).



Photograph 7: Recent Stockpile Dumping (see OIN 10 on Figure 2 in Appendix A).



Photograph 8: Recent Stockpile Dumping (see OIN 10 on Figure 2 in Appendix A).



Photograph 9: Recent Sandstone Log Dumping (see OIN 10 on Figure 2 in Appendix A).