Blueys Estate Pty Ltd

Preliminary Site Investigation - Contamination Assessment

Proposed Caravan Park and Cabins

3611 The Lakes Way, Charlotte Bay

Report No. RGS03399.1-AB

25 June 2024

REGIONAL GEOTECHNICAL SOLUTIONS

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Manning-Great Lakes
Port Macquarie
Coffs Harbour

RGS03399.1-AB

25 June 2024

Blueys Estate Pty Ltd
C/O Land Advisory Services Pty Ltd
PO Box 2317
DANGAR NSW 2309

Attention: Brett Phillips

Dear Brett

RE: Proposed Caravan Park and Cabins – 3611 The Lakes Way, Charlotte Bay

Preliminary Site Investigation - Contamination Assessment

As requested, Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a Preliminary Site Investigation Contamination Assessment for the proposed caravan park and cabins at 3611 The Lakes Way, Charlotte Bay, NSW.

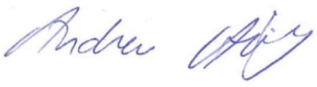
Based on the results obtained in this investigation, it is considered that the subject site can be made suitable for future land use as a caravan park with cabin accommodation with regard to the presence of soil contamination, provided the recommendations and advice of this report are adopted, and site preparation works are conducted in accordance with appropriate site management protocols and legislative requirements. The work presented herein was reviewed by Dr David Tully CEnvP SC. A copy of Dr Tully's letter pertaining to the review is appended to the report.

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

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

Prepared by



Andrew Hills

Associate Environmental Engineer

Reviewed by

Steve Morton

Principal Geotechnical Engineer

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1 INTRODUCTION and BACKGROUND

1.1 General

Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a Preliminary Site Investigation Contamination Assessment (PSI) for the proposed caravan park and cabins at 3611 The Lakes Way, Charlotte Bay, NSW. The site location is shown on Figure 1. The proposed site layout is shown on Figure 2.

The site forms part of Lot 110 DP1091944 and occupies approximately 305 hectares. The portion of the property proposed to accommodate the caravan park and cabins development is approximately 11 hectares. It is this portion that is the subject of this report.

The PSI is required to assess past and present potentially contaminating activities and contamination types in order to assist with the progression of the Development Application (DA) for the proposed development.

1.2 Objective

The objective of the PSI is to provide a preliminary assessment of the potential for soil contamination to be present on the site which may affect future land use as a caravan park with cabin accommodation.

1.3 Scope of Works

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

- Review of previous reports for the site held by RGS;
- Land titles search to check for evidence of past ownership that may be indicative of potentially contaminating activities;
- Search of government records such as the EPA's contaminated site register, groundwater bore register, etc;
- Review of available aerial photography to check for evidence of potential contamination or potentially contaminating activities (if any);
- Site walkover to assess surface conditions and, in conjunction with the information above, identify Areas of Environmental Concern and associated Chemicals of Concern on the site;
- Undertake targeted soil sampling and analysis at the selected Areas of Concern to allow some preliminary analysis of the presence of contamination;
- Analyse soil samples for a suite of potential contaminants associated with the past and present activities; and
- Evaluate the results against industry accepted criteria for residential land use.

1.4 Site Identification

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

Table 1: Summary of Site Details

Site location:	3611 The Lakes Way, Charlotte Bay
Approximate subject site area:	11 hectares
Title Identification Details:	Lot 110 DP1091944
Zoning	RU2 – Rural Landscape
Current Landuse:	Horse agistment / golf course
Proposed Landuse:	Caravan park and cabins (Residential)
Adjoining Site Uses:	• Rural residential to the north and south; • Undeveloped bushland to the east; • The Lakes Way to the west.
Government Area:	Midcoast Council

2 SITE DESCRIPTION

2.1 Topography and Drainage

The site is located to the east of The Lakes Way in Charlotte Bay, near Pacific Palms. Topographically it comprises of two low lying flat to gently undulating areas separated by a north-westerly trending ridgeline, and a westerly facing hillside in the north east corner of the site.

Slope changes are nominal with the exception of the south-west corner which grades down to the central part of the site at about 2° to 3°.

Drainage is anticipated to be via overland flow into several dams on the site which are outside of the proposed development parcel. Ponded water was present across the majority of the site at the time of the field investigations following periods of heavy rainfall.

Vegetation comprised long grass with small shrubs and scattered large Eucalyptus trees up to 25m in height.

2.2 Geology

Published geology maps (Bulahdelah 1:100,000 Sheet 9333, Edition 1 1993) indicates that the site is underlain by the late Carboniferous aged Koolanock Sandstone member that typically comprises interbedded sandstone and siltstone, and undifferentiated alluvium. The Smiths Lake 1:25,000 Quaternary Geology map indicates that the alluvial areas are quaternary alluvial and colluvial fan comprising fluvial sand, silt, clay and gravel.

Previous investigations undertaken by RGS at this site indicate that the proposed development area comprises low-lying flat to gently sloping areas with alluvial/colluvial clay and sand deposits overlying residual clay soils which grade into weathered rock at depth.

2.3 Hydrogeology

A groundwater bore search on the NSW Water Information website, http://waterinfo.nsw.gov.au/gw/ indicates that there are no licenced groundwater bores located within 500m of the site.

Previous groundwater monitoring undertaken by RGS within the proposed development area recorded groundwater levels of between 0.81m and 1.15m below ground surface.

Data logger recorded groundwater levels obtained during the groundwater monitoring outlined above indicated that the groundwater level rises rapidly in response to a rainfall event, i.e. within 24 hours and that the increase in the groundwater height varies from between about 1.5 to 3 times the level of rainfall.

Regional groundwater flow is anticipated to be to the south-east towards Smiths Lake.

2.4 Acid Sulfate Soils (ASS)

A review of the NSW Department of Planning, Industry and Environment ASS risk map for Pacific Palms indicated that the site is located in an area mapped as having no known occurrence of ASS.

3 SITE HISTORY

3.1 Historical Aerial Photography

Aerial photographs and satellite imagery of the site were obtained from NSW Spatial Services and Google Earth and reviewed to assist in identifying past land uses that may contribute to site contamination. The results of the review are summarised in Table 2.

Table 2 – Aerial Photograph and Satellite Imagery Summary

Year	Lot	Surrounding Land
1971	The majority of the site appears to comprise undeveloped bushland. There has been some vegetation clearing in the western part of the site possibly as access tracks or easements.	The Lakes Way is visible to the west and Coomba Road is visible to the south-west. There is mainly undeveloped bushland surrounding the site with some rural residential and/or framing grazing land present to the north and south of the site.
1980	No significant visible changes.	There appears to have been further rural residential property along Coomba Road to the south-west.
1997	There has been some clearing in the eastern part of the site which are possible additional access tracks. There are three dams visible in the north-east part of the Lot which are outside of the proposed development parcel.	Some further clearing of land immediately to the south of the site otherwise no other significant visible changes.
2002 (Google Earth)	The golf course in the northern part of the Lot is visible. Five additional dams are visible in the east and north-east of the site which are outside of the proposed development parcel. There is an area of disturbed ground in the south-west corner of the site which are possibly fill stockpiles or placement.	Some further clearing of land immediately to the south of the site otherwise no other significant visible changes.
2011 (Google Earth)	An excavator is visibly in the disturbed or fill placement area in the south-west of the site. No other significant changes.	Further rural residential development along Coomba Road.
2024 (Google Earth)	An excavator is still visible in the disturbed/fill placement area, however, the ground appears to now be vegetated.	No significant visible changes.

3.2 Site Observations

A site walkover was undertaken on 19 April and 10 May 2024. Observations made during the site visit are summarised below:

- The northern part of the proposed development parcel comprises a golf course;
- The majority of the proposed development parcel comprises semi-cleared land with scattered large Eucalypt trees;
- Due to the presence of horses at the time of the field investigations, the portion of the site not comprising the golf course may have been used for horse agistment;
- An old box trailer was present along the western boundary fence near the intersection of The Lakes Way and Coomba Road;
- Several fill stockpiles are present across the proposed development parcel in the southern and central parts;
- The largest fill stockpile is located in southern part of the proposed development parcel which appeared to comprise site won soil weathered rock as well as large concrete pieces;
- An old 22T excavator was sitting on the large fill stockpile described above. No leaks or spills of fuels, oils or lubricants were observed in the vicinity of the excavator;
- An area of disturbed ground was present to the north of the large fill stockpile described above possibly from an excavator due to the presence of what appeared to be track marks;
- An old liquid storage tank was present in the south-west corner. It is unknown what liquids were stored in the tank however, no hydrocarbon odours or staining were observed in the vicinity of the tank;
- A disused demountable building or amenities block was present in the north-east of the proposed development area. No other structures were observed;
- An unsealed access track was present in the eastern part of the south which ran from north to south the length of the site;
- No hydrocarbon odours or staining were observed;
- No suspected Asbestos Containing Materials (ACM) were observed.

A selection of images of the site is presented below.

	
Looking north across the central part of the site showing the semi-cleared land with scattered trees.	*Old box trailer located along the western perimeter fence near The Lakes Way and Coomba Road intersection.*
	
Looking north in the southern part of the site showing an area of disturbed ground possibly made by an excavator.	*Looking north in the southern part of the site showing a large fill stockpile comprising soil, weathered rock, boulders and concrete pieces. A 22T excavator was sat on top of the stockpile.*

Soil, rock and concrete pieces present in the large fill stockpile located in the southern part of the site.

Looking north in the northern part of the site showing a fill stockpile which appeared to comprise stripped topsoil.

An old liquid storage tank present in the south-west corner of the site. It is unknown what liquids were stored in the tank. No evidence of hydrocarbon storage was observed at the time of the field investigations.

Looking north-west showing an old demountable building, possibly an amenities block located in the northern part of the site.

3.3 NSW EPA Records

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

3.4 Land Title Search

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

The title history search revealed the following:

Lot 110 DP 1091944	
14 Aug 2006 to date	Blueys Holdings Pty Limited
05 Jan 2006	Blueys Estate Pty Limited

Lot 168 DP 753168	
10 Apr 1987	Blueys Estate Pty Limited
06 Mar 1987	Schope Pty Limited
11 Feb 1985	Schope Pty Limited
21 Dec 1972	Theresa Willmott, married woman / grantee
Prior 21 Dec 1972	Crown Land

Lot 23 DP 236679	
25 Mar 1988	Blueys Estate Pty Limited
05 Jun 1987	Raymond Leslie Young, seaman
22 Jun 1970	Raymond Leslie Young, seaman
30 Sep 1968	Lucas & Tait Ranches Pty. Limited
03 Jun 1966	Lucas & Tait Ranches Pty. Limited
12 Jun 1963	Milne Browne & Co. Limited
05 Jun 1963	John Kevin Gascoigne, grantee
Prior to 05 Jun 1963	Crown Land

3.5 Site History Summary

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

- Land title information indicates that the site was previously divided into three lots, two which were crown land prior to 1963 and 1972 respectively. Since that time the site has been owned by various companies and individuals with the current owner acquiring each of the lots in 1987, 1988 and 2006 respectively;
- Historically, it is unknown what the site has been used for although agricultural and/or agistment activities are likely. It is noted that horses were present on the site at the time of the field investigations;
- The northern part of the proposed development parcel appears to have been used a golf course since at least 2002;
- A number of dams have been constructed in the east and north-east parts of the site between 1980 and 2002 however, the dams are outside of the proposed development parcel;
- A disturbed area in the south-west of the site which appears to have been the result of fill placement or stockpiling commenced some time between 1997 and 2002 and ceased sometime between 2002 and 2024; and
- There does not appear to have been buildings or other structures constructed and/or removed over time.

4 FIELD and LABORATORY INVESTIGATIONS

4.1 Sampling Plan

The NSW EPA (2022) Sampling Design Guidelines recommend a minimum of about 131 sampling locations to characterise a site of 11 hectares where a systematic sampling pattern is adopted. Due to the preliminary nature of the assessment and that the site history research has not revealed indications of current or previous potentially contaminating activities that might have resulted in site wide contamination, at this stage nine sampling locations were selected using a judgemental approach based on the identification of key Areas of Environmental Concern. The sampling program was designed to target the key Areas of Environmental Concern identified from the site history research and walkover.

4.2 Field Work

Field work for the assessment was undertaken on 19 April and 10 May 2024 by an Environmental Engineer from RGS and included:

- Site walkover to assess visible surface conditions and identify evidence of contamination, or past activities that may cause contamination (if any); and
- Collection of nine soil samples from the ground surface and fill stockpiles using hand tools.

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

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

4.3 Laboratory Analysis

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

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

The results are presented in Appendix B.

4.4 Data Quality Objectives

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

Table 3 – Data Quality Objectives

DQO	Details of Process
State the Problem	A PSI is required to assess the suitability of the site for future residential land use from a contamination perspective.
Identify the Decision	The principal study questions that are: • What is the nature and extent of soil contamination on the subject land (if any)?; and • Is the land likely to be suitable for the proposed future residential development from a contamination viewpoint?
Identify Inputs to the Decision	The primary inputs are: • Site history study; • Site walkover assessment; • Chemical analysis of selected soil samples; and

DQO	Details of Process
	• Results summary.
Define the Boundary of the Assessment	• The spatial boundaries are limited to the property boundaries of the subject site as shown on Figure 1 and Figure 2; • The investigation and screening levels for a Residential A land use scenario.
Develop a Decision Rule	The decision rules for the investigation are: • If concentrations of contaminants in soil exceed the adopted investigation and screening levels for a Residential A land use scenario, then further assessment may be required; Decision criteria for QA/QC measures are defined in Section 4.6. A decision on the acceptance of analytical data will be made on the basis of the data quality indicators (DQIs) in the context of precision, accuracy, representativeness, completeness and comparability (PARCC) parameter– as follows: • **Precision -** NATA registered laboratories were used following NATA accredited systems and industry standard test methods. An appropriate number of intra-laboratory samples were collected and analysed (following ASC NEPM guidance), the results of which are considered to be satisfactory; • **Accuracy -** The laboratory limit or reporting (LOR) was appropriate for the screening criteria utilised. NATA registered laboratories were used following industry standard methods including appropriate method blanks, laboratory control samples, laboratory spikes and duplicates the results of which are considered to be satisfactory. • **Representativeness –** The samples were received by the laboratories in good condition. The data obtained is considered to be representative of the soils present on site; • **Completeness –** Experienced field staff were utilised to undertake the sampling and keep appropriate documentation. Samples were in proper custody between the field and reaching the laboratory. The laboratories performed the tests requested. The data obtained from the field investigations is considered to be relevant and usable; and • **Comparability –** Sample holding times were met and samples were properly and adequately preserved. Field sampling and handling procedures were followed. The data collected is considered to be comparable.
Specify Acceptable Limits on Decision Errors	• Acceptable limits for QA/QC measures are defined in Section 4.6; • Acceptable investigation and screening levels are those for a Residential A land use scenario; and

DQO	Details of Process
	• Specific limits are in accordance with the appropriate NSW EPA guidelines including indicators of data quality and standard procedures for field sampling and handling.
Optimise the Design for Obtaining Data	Based on the above steps of the DQO process. The design for obtaining the required data (i.e proposed field and laboratory investigations) is presented in Section 4.1.

4.5 Guidelines and Assessment Criteria

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

To evaluate results, and for guidance on assessment requirements, the assessment will adopt the guidelines provided in the *National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM 2013)*. The ASC NEPM document provides a range of guidelines for assessment of contaminants for various land use scenarios. It is understood that the future land use for the site is for a caravan park with cabin accommodation. As such, comparison with the ASC NEPM guideline Health Investigation Levels (HIL) for Residential A land use is considered appropriate for the proposed development. In accordance with the NEPM guideline the following criteria will be adopted for this assessment:

- Health Investigation Levels (HILs) for residential 'A' land use (HIL-A) will be used to assess the potential human health impact of heavy metals and polycyclic aromatic hydrocarbons (PAHs);
- Health Screening Levels (HSLs) for coarse textured (sand) or fine textured (silt and clay) soils on a residential site will be adopted as appropriate for the soils encountered to assess the potential human health impact of petroleum hydrocarbons and benzene, toluene, ethylbenzene and xylene (BTEX) compounds;
- Ecological Investigation Levels (EILs) for residential land use will be used for evaluation of the potential ecological / environmental impact of heavy metals and naphthalene. Due to the preliminary nature of this investigation, soil specific EILs have not been calculated for chromium, copper, nickel and zinc and
- Ecological Screening Levels (ESLs) for coarse textured (sand) soils or fine textured (silt and clay) soils on a residential land use site will be adopted as appropriate for the soils encountered, to assess the potential ecological / environmental impact of petroleum hydrocarbons BTEX compounds and benzo(a)pyrene.

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

4.6 Quality Assurance / Quality Control

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

Samples were placed on ice on-site and maintained on ice during transport to the testing laboratories. One duplicate soil sample identified as D1, duplicate of primary sample SS1 0.0 – 0.2m was submitted to the laboratory for analysis for quality control purposes. Comparison between the primary and duplicate samples are presented in the results summary tables in Appendix B.

The Relative Percent Differences (RPDs) were calculated for the duplicate sample and presented in the results summary table in Appendix A.

The duplicate RPDs were within the control limit of 40% (with the exception of Arsenic and Zinc) and indicated generally good correlation between the primary and duplicate sample.

It is noted that low analyte concentrations exaggerate the percentage differences with respect to small total concentration differences, therefore where results for the primary and duplicate, were less than 10 times the laboratory limit of reporting (LOR), the RPDs have been disregarded. The RPDs for Arsenic and Zinc in sample D1 which exceeded the 40% control limit as outlined above were disregarded on this basis.

One rinsate sample (RINSATE) was collected from the hand tools to assess the efficacy of the decontamination techniques. Analysis of the rinsate sample indicated that it was free of contaminants. In addition to the field quality control procedures, the laboratory conducted internal quality control testing including surrogates, blanks, and laboratory duplicate samples. The results are presented with the laboratory test results in Appendix B.

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

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

5 SITE CONTAMINATION ASSESSMENT RESULTS

5.1 Subsurface Conditions

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

Table 4: Summary of Subsurface Conditions

Sample ID	Description
SS1, SS3, SS6	Topsoil: Silty CLAY, low plasticity, brown / dark brown, some gravel, coarse grained, some roots
SS5	Fill (Stripped Topsoil): Sandy Gravelly CLAY, low plasticity, brown / dark brown / black, some gravel, coarse grained, some roots
SS2, SS4, SS101, SS102	Fill (CLAY) : Sandy or Silty Gravelly CLAY, low plasticity, brown / orange / grey, some gravel, coarse grained, trace roots
SS103	Fill (SAND): SAND, fine to medium grained, grey / brown, some roots

5.2 Laboratory Results

An appraisal of the laboratory test results presented in Appendix C is provided below with reference to the adopted soil investigation and screening levels discussed in Section 4.5.

- Concentrations of heavy metals were either below the laboratory limit of reporting or below the adopted health investigation criteria for a Residential A site in each of the samples analysed;
- Concentrations of arsenic and lead were below the adopted EILs. Due to the preliminary nature of this investigation, soil specific EILs have not been calculated for chromium, copper, nickel and zinc;
- Concentrations of TRH were either below the laboratory limit of reporting or below the adopted health and ecological investigation criteria for a Residential A site in each of the samples analysed. One sample SS1 0.0 – 0.2m exceeded the laboratory limit of reporting for TRH C_{16}-C_{34} fraction but was well below the ESL;
- Concentrations of PAH, BTEX and PCB below the laboratory limit of reporting in each of the samples analysed;
- OC and OP pesticides were below the laboratory limit of reporting or below the adopted health and ecological investigation criteria for a Residential A site in each of the samples analysed. One sample SS103 exceeded the laboratory limit of reporting for heptachlor epoxide and total chlordane but each were well below the HIL; and
- Asbestos was not detected in each of the soil samples analysed.

5.3 Conceptual Site Model

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

5.4 Potential Sources of Contamination

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

Table 5: Potential AECs and COCs

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC1: Disused box trailer	Potential spillage or leaks from vehicles or machinery using trailer	TRH, BTEX, PAH, lead	Low
AEC2: Fill stockpiles	Importation of potentially contaminated fill	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP and asbestos	Low to moderate
AEC3: Disturbed ground	Potential spillage of chemicals including agro-chemicals, fuels/oils, pesticides	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP	Low
AEC4: Old liquid storage tank	Potential spillage or leaks of stored fuels/oils/lubricants and agro-chemicals	Heavy Metals, TRH, BTEX, PAH, OC/OPP	Moderate
AEC5: Disused 22T excavator	Potential spillage of fuels/oils	TRH, BTEX, PAH, lead,	Low to moderate
AEC6: Old demountable building / amenities block	Potential hazardous building materials, spills / leaks of grey and black water	Asbestos, heavy metals, pathogens	Low
AEC7: Historical agricultural / agistment activities and golf course usage	Importation of potentially contaminated fill Potential spillage of chemicals including agro-chemicals, fuels/oils, pesticides	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP	Low

AEC	Mode of Potential Contamination	Potential COCs	Likelihood of Contamination
AEC8: Unidentified in-situ fill	Importation of potentially contaminated fill	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP and asbestos	Low
AEC9: Unidentified waste from illegal dumping	Importation of potentially contaminated fill and other waste materials	Heavy Metals, TRH, BTEX, PAH, PCB, OC/OPP, asbestos	Low
Heavy Metals - Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc *BTEX - Benzene, Toluene, Ethylbenzene and Xylene* *TRH - Total Recoverable Hydrocarbons* *PAH – Polycyclic Aromatic Hydrocarbons* *PCB – Polychlorinated Biphenyls* *OC/OPP – Organochlorine and Organophosphorus Pesticides*			

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

5.5 Potential Exposure Pathways and Receptors

Based on the site observations and knowledge obtained about site activities as outlined above, potential exposure pathways and receptors identified for the assessment are summarised in Table 6.

Table 6: Potential Exposure Pathways and Receptors

Chemicals of Concern	Key Pathways	Key Receptors
Asbestos, heavy metals	Generation of dust, notably during earthworks or from landscaped areas which is inhaled	Onsite - Construction and site workers, future site users Offsite – Occupants and users of adjacent sites
Heavy metals, TRH, BTEX, PAH, OC/OPP, Pathogens	Skin contact / ingestion, plant uptake	Onsite - Construction and site workers, future site users, vegetation in landscaped areas
Heavy Metals, TRH, BTEX, PAH, OC/OPP, Pathogens	Surface runoff and leaching of soils	Offsite/Onsite - Surface water ecosystems and users of surface water and groundwater

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

5.6 Discussion

The PSI is required to evaluate past and present potentially contaminating activities and contamination types with regard to the site's suitability for future residential land use and to assist with the progression of the DA for the proposed caravan and cabins development.

From the site history review, it is unknown exactly what the property has been used for, however, agricultural and/or agistment activities are considered likely given the presence of horses at the time of the field investigations. The northern part of the site has been used as a golf course since at least 2002.

The historical aerial photography review indicates that partial clearing of the eastern part of the site was undertaken prior to 1971 with further clearing between 1980 and 1997. The photographs indicate these clearings were possibly for access tracks and/or easements.

Fill placement and stockpiling in the south-west corner of the site appears to have occurred periodically over an approximately 20-year period.

Identified AEC's include a disused box trailer along the western property boundary, fill stockpiles in the central and southern parts, disturbed ground in the southern part, old liquid storage tank in the south-west part, disused 22T excavator in the southern part, old demountable amenities building in the north-east part, potentially historical agricultural and animal agistment activities, golf course in the northern part, unidentified in-situ fill, and waste from illegal dumping.

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

little evidence of anthropogenic impact, with the exception of the results from samples SS1 and SS103.

Sample SS1 was collected from topsoil adjacent to the old box trailer along the western property boundary and recorded a TRH C_{16}-C_{34} fraction which was above the laboratory limit of reporting but well below the adopted investigation criteria for a Residential A site. No visual or olfactory evidence of widespread or gross hydrocarbon contamination was observed in the vicinity of the box trailer nor the liquid storage tank located in the south-west corner or elsewhere across the site.

Similarly, sample SS103, was collected from a fill stockpile in the southern part of the site and recorded OC pesticides results for Heptachlor epoxide and Total Chlordane which were above the laboratory limit of reporting but well below the adopted investigation criteria for a Residential A site.

Asbestos was not detected in each of the soil samples submitted for analysis.

5.7 Conclusions and Recommendations

It is recommended that the box trailer, excavator, liquid storage tank and demountable amenities building be appropriately removed and disposed of to a waste management facility where necessary. Following the removal of these items, a visual inspection of the ground surface should be undertaken by a qualified environmental consultant to evaluate whether additional soil sampling should be undertaken.

It is recommended that further testing of the fill stockpiles be undertaken to assess their suitability to remain onsite from a contamination perspective and also to provide a more detailed waste classification for offsite disposal of these materials if required. A preliminary waste classification has been provided below n Section 6 based on the sampling undertaken during this investigation.

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

The investigation works undertaken were of limited scope and provide a preliminary assessment of identified AECs. Should materials suspected of being contaminated (by way of visual or olfactory evidence) be encountered during development of the site, it is recommended that advice from a suitably qualified and experienced environmental consultant be sought without delay.

Based on the results obtained in this investigation, it is considered that the site can be made suitable for future land use as a caravan park with cabin accommodation with regard to the presence of soil contamination, provided the recommendations and advice of this report are adopted, and site preparation works are conducted in accordance with appropriate site management protocols and legislative requirements.

6 DISPOSAL OF MATERIALS

6.1 Preliminary Waste Classification

A preliminary waste classification has been provided for the fill stockpiles and natural soils sampled during this investigation which may be geotechnically or otherwise unsuitable in order to facilitate off-site disposal to a licensed landfill in accordance with NSW EPA (2014) *Waste Classification Guidelines*.

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

An evaluation of the laboratory test results for sampled soils against the waste classification guidelines outlined above are presented in the summary table in Appendix B.

Preliminary waste classification results indicate that the soils present on-site would classify as General Solid Waste and could be disposed of to a landfill licensed to accept to **General Solid Waste**.

It is likely that the majority of natural soils and rock present on the site would classify as Virgin Excavated Natural Material (VENM) in accordance with the NSW EPA (2014) *Waste Classification Guidelines*, subject to an evaluation by a suitably qualified environmental consultant at the commencement of excavation works.

7 LIMITATIONS

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

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

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

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

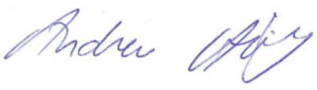
This report alone should not be used by contractors as the basis for preparation of tender documents or project estimates. Contractors using this report as a basis for preparation of tender documents should avail themselves of all relevant background information regarding the site before deciding on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

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

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

Prepared by



Andrew Hills

Associate Environmental Engineer

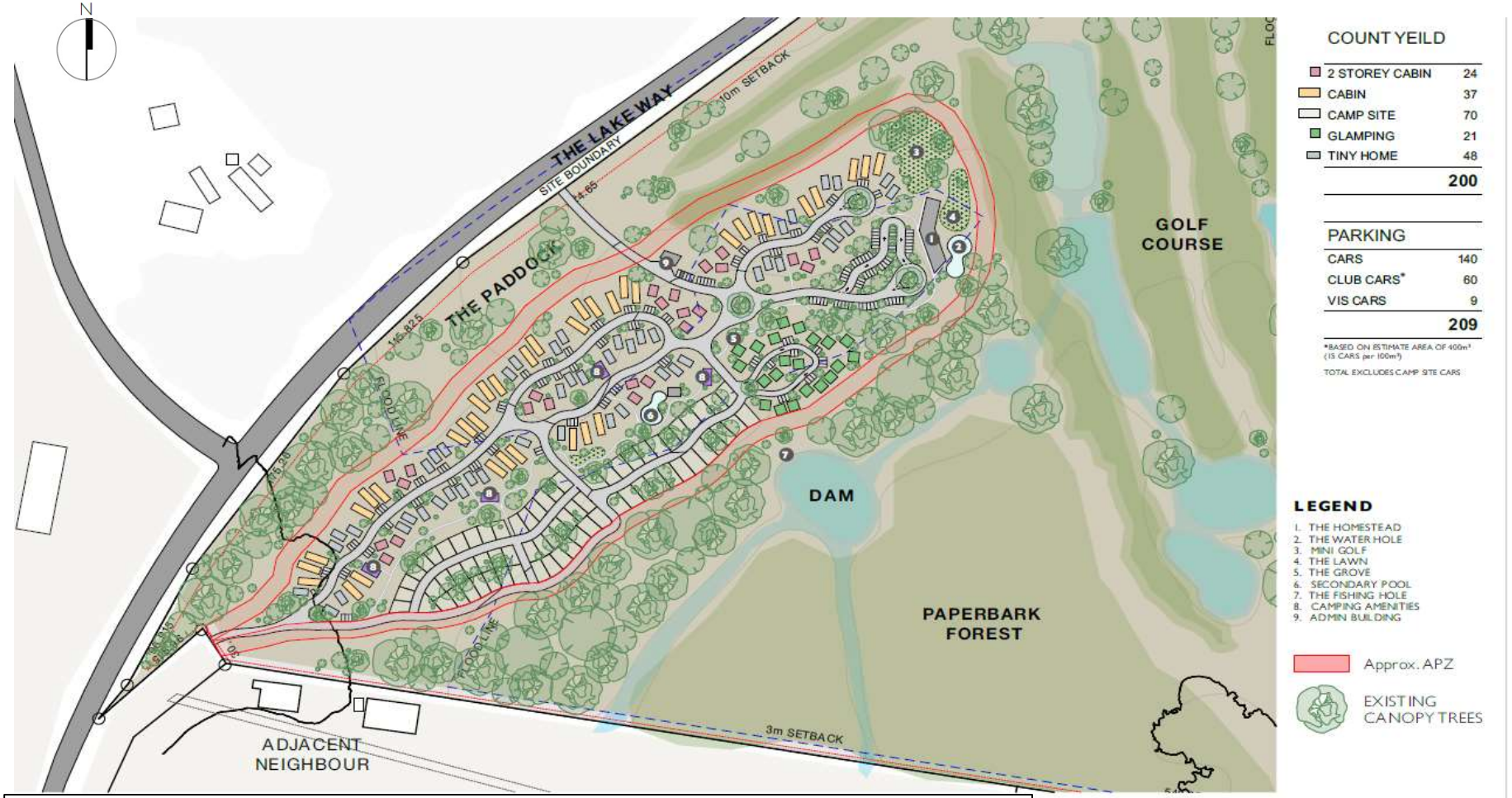
Reviewed by

Steve Morton

Principal Geotechnical Engineer

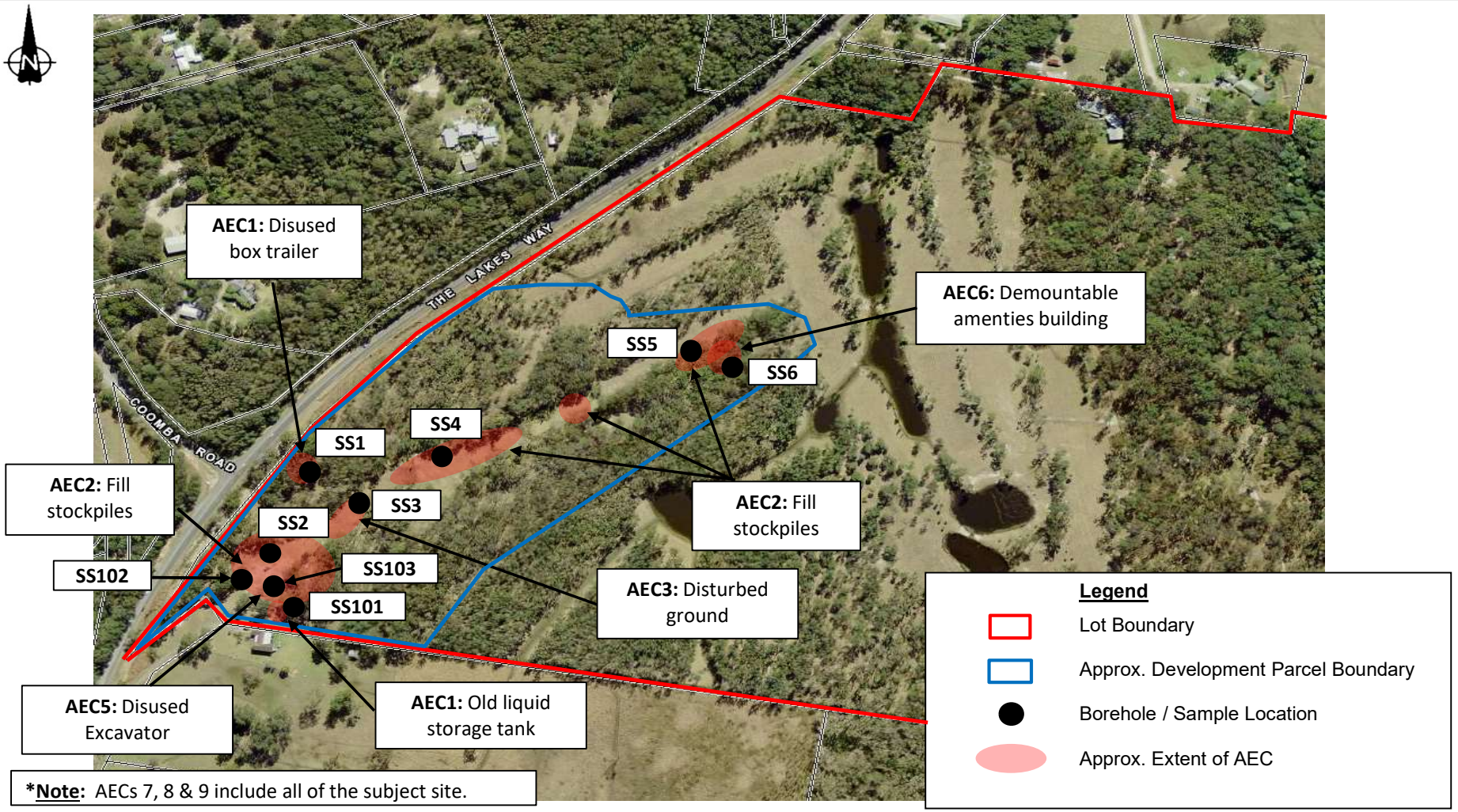
Figures

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Blueys Estate Pty Ltd	Job No.	RGS03399.1
	Project:	Proposed Caravan Park and Cabins 3611 The Lakes Way, Charlotte Bay	Drawn By:	APH
			Scale:	As Shown
			Date:	14-Jun-24
	Title:	Site Location Plan	Drawing No.	**Figure 1**



*Plan based off drawing provided titled "Proposed Site Plan" Drawing No.SK_3.03 dated 27/03/24

REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Blueys Estate Pty Ltd	Job No.	RGS03399.1
	Project:	Proposed Caravan Park and Cabins 3611 The Lakes Way, Charlotte Bay	Drawn By:	APH
			Scale:	As Shown
			Date:	14-Jun-24
	Title:	Proposed Site Plan	Drawing No.	**Figure 2**



REGIONAL GEOTECHNICAL SOLUTIONS	**Client:**	Blueys Estate Pty Ltd	Job No. RGS03311.1
	Project:	Proposed Caravan Park and Cabins 3611 The Lakes Way, Charlotte Bay	Drawn By: APH Scale: As Shown Date: 14-Feb-24
	Title:	Areas of Environmental Concern	Drawing No. **Figure 3**

Appendix A

Site History Documentation

ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842)
ABN 82 147 943 842

18/36 Osborne Road,
Manly NSW 2095

Mobile: +61412 169 809
Email: search@alsearchers.com.au

06th June, 2024

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

Attention: Andrew Hills,

RE: **3540 The Lakes Way,**
Charlotte Bay
RGS03399.1

Current Search

Folio Identifier 110/1091944 (title attached)
DP 1091944 (plan attached)
Dated 05th June, 2024
Registered Proprietor:
BLUEYS HOLDINGS (SPV) PTY LIMITED *(ACN 110 332 495)*

Title Tree
Lot 110 DP 1091944

Folio Identifier 110/1091944

(a)	(b)	(c)
Folio Identifier 1/722686	Folio Identifier 168/753168	Folio Identifier 23/236679
Crown Road	CTVol 11990 Folio 208	CTVol 10893 Folio 135
****	Crown Land	CTVol 8449 Folio 147
	****	

Index

T – Transfer
G - Grant

****

Summary of proprietor(s)
Lot 110 DP 1091944

Year	Proprietor(s)	
	(Lot 110 DP 1091944)	
14 Aug 2006 todate	Blueys Holdings Pty Limited *(ACN 110 332 495)*	T
05 Jan 2006	Blueys Estate Pty Limited *(ACN 001 200 951)*	

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

Note (a)

	(Lot 1 DP 722686)	
20 Dec 1988	Blueys Estate Pty Limited *(ACN 001 200 951)*	T
23 Nov 1988	State of New South Wales	
	(Part The Lakes Way, Charlotte Bay – Parish Forster)	
Prior 23 Nov 1988	Crown Road	

****

Note (b)

	(Lot 168 DP 753168)	
10 Apr 1987	Blueys Estate Pty Limited *(ACN 001 200 951)*	T
06 Mar 1987	Schope Pty Limited	
	(Portions 87 & 168 Parish Forster – CTVol 11990 Fol 208)	
11 Feb 1985	Schope Pty Limited	T
21 Dec 1972	Theresa Willmott, married woman / grantee	G
	(Portion 168 Parish Forster	
Prior 21 Dec 1972	Crown Land	
(1946 to 21 Dec 1972)	*(Conditional Purchase 1946/11 Taree)*	

****

Note (c)

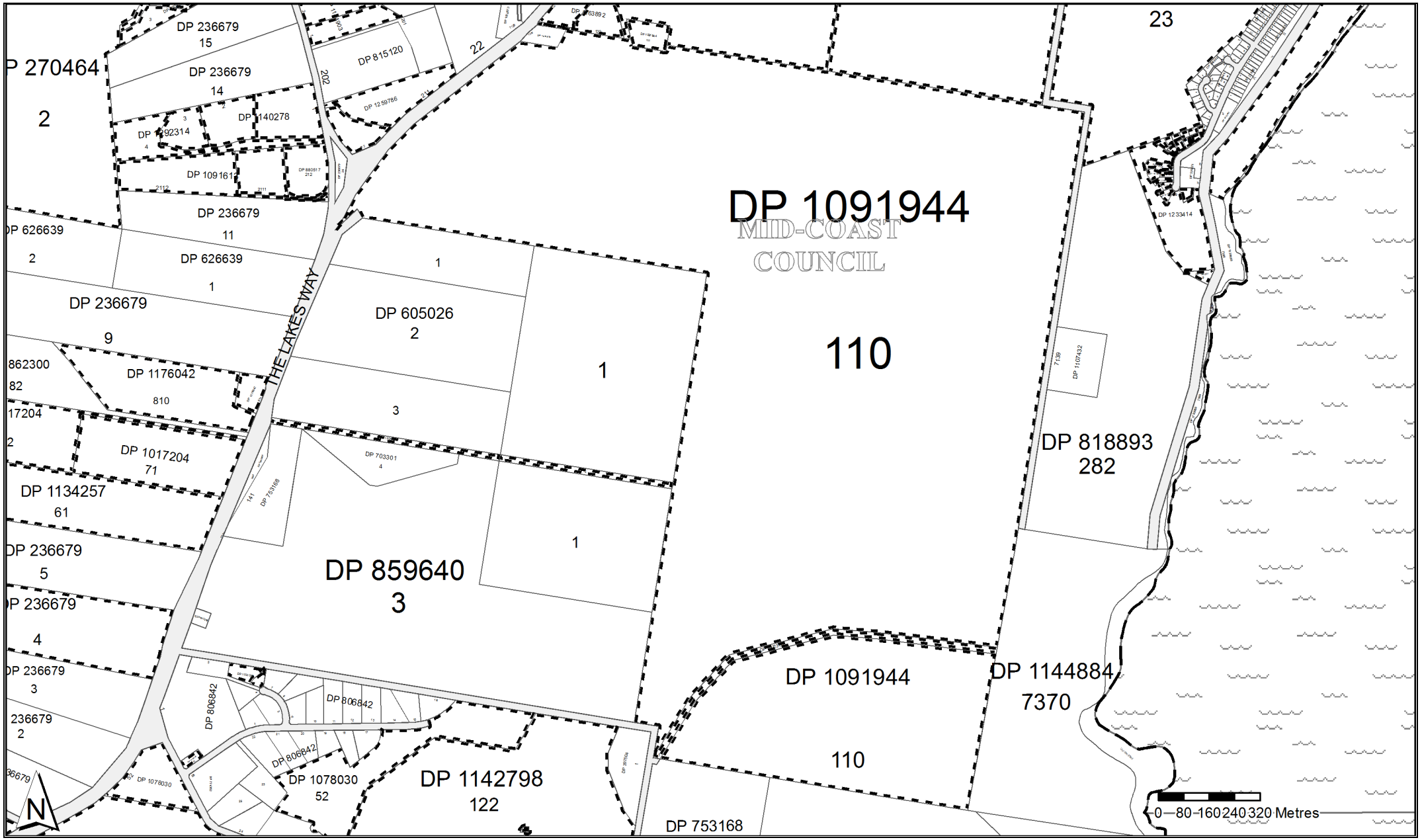
	(Lot 23 DP 236679)	
25 Mar 1988	Blueys Estate Pty Limited *(ACN 001 200 951)*	T
05 Jun 1987	Raymond Leslie Young, seaman	
	(Lot 23 DP 236679 – CTVol 10893 Fol 135)	
22 Jun 1970	Raymond Leslie Young, seaman	T
30 Sep 1968	Lucas & Tait Ranches Pty. Limited	
	(Portion 161 Parish Forster – Area 890 Acres – CTVol 8449 Fol 147)	
03 Jun 1966	Lucas & Tait Ranches Pty. Limited	T
12 Jun 1963	Milne Browne & Co. Limited	T
05 Jun 1963	John Kevin Gascoigne, grantee	G
	(Portion 161 Parish Forster – Area 890 Acres)	
Prior to 05 Jun 1963	Crown Land	
(1950 to 05 Jun 1963)	*(Conditional Purchase 1950/15 Taree)*	

****

Cadastral Records Enquiry Report : Lot 110 DP 1091944

Ref : NOUSER

Locality : CHARLOTTE BAY
Parish : FORSTER
LGA : MID-COAST
County : GLOUCESTER



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

	Status	Surv/Comp	Purpose
DP236679			
Lot(s): 4			
DP1134257	REGISTERED	SURVEY	SUBDIVISION
DP270464			
Lot(s): 1, 2, 3			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP1052270	HISTORICAL	SURVEY	SUBDIVISION
DP537919			
Lot(s): 23			
DP1003887	REGISTERED	SURVEY	SUBDIVISION
DP550976			
Lot(s): 2			
DP267980	REGISTERED	SURVEY	EASEMENT
DP1028821	REGISTERED	SURVEY	EASEMENT
DP859640			
Lot(s): 2			
NSW GAZ. 07-02-2003 Folio : 1031 CLOSED ROAD LOT 2 DP859640			
PA81950 - LOT 2 DP859640			
DP880517			
Lot(s): 212			
DP1091613	REGISTERED	SURVEY	SUBDIVISION
DP1001067			
Lot(s): 61, 62			
DP806842	HISTORICAL	SURVEY	SUBDIVISION
DP1003887			
Lot(s): 10			
DP1012533	REGISTERED	COMPILATION	EASEMENT
Lot(s): 2, 3, 4, 5, 6, 7, 8, 9, 10			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1007628			
Lot(s): 1			
NSW GAZ. 07-05-2004 Folio : 2770 LOT 1 DP1007628 ACQUIRED FOR THE PURPOSE OF ACCESS TO A SEWERAGE TREATMENT PLANT			
PA81585 - LOT 1 DP1007628			
DP1014013			
Lot(s): 15			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1181326	REGISTERED	SURVEY	SUBDIVISION
DP1017204			
Lot(s): 71, 72			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP1078030			
Lot(s): 52			
DP772135	HISTORICAL	SURVEY	SUBDIVISION
DP806842	HISTORICAL	SURVEY	SUBDIVISION
DP1084241			
Lot(s): 9			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1091613			
Lot(s): 2111, 2112			
DP880517	HISTORICAL	SURVEY	SUBDIVISION
DP1091944			
Lot(s): 110, 111, 112			
DP1163892	REGISTERED	SURVEY	SUBDIVISION
Lot(s): 110, 111			
DP753168	HISTORICAL	COMPILATION	CROWN ADMIN NO.

	Status	Surv/Comp	Purpose
Lot(s): 111, 112			
DP740282	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 110			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP722686	HISTORICAL	COMPILATION	CROWN FOLIO CREATION
DP1114906			
Lot(s): 11			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1181326	REGISTERED	SURVEY	SUBDIVISION
DP1124903			
Lot(s): 1, 2			
DP816792	HISTORICAL	SURVEY	SUBDIVISION
DP1130058			
Lot(s): 7365			
DP1108617	HISTORICAL	COMPILATION	DEPARTMENTAL
DP1134257			
Lot(s): 61			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP1140278			
Lot(s): 1, 2			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP1292314	REGISTERED	SURVEY	SUBDIVISION
DP1142798			
Lot(s): 122, 123			
DP593531	HISTORICAL	SURVEY	SUBDIVISION
DP1158458			
Lot(s): 14			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1114906	HISTORICAL	SURVEY	SUBDIVISION
DP1163892			
Lot(s): 121, 122			
DP729771	HISTORICAL	COMPILATION	CROWN FOLIO CREATION
DP740282	HISTORICAL	SURVEY	SUBDIVISION
DP1172370			
Lot(s): 1			
NSW GAZ. CLOSED ROAD LOT 1 DP1172370	01-06-2012		Folio : 2300
DP1176042			
Lot(s): 810, 811			
DP862300	HISTORICAL	SURVEY	SUBDIVISION
DP1181326			
Lot(s): 16			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1114906	HISTORICAL	SURVEY	SUBDIVISION
DP1158458	HISTORICAL	SURVEY	SUBDIVISION

	Status	Surv/Comp	Purpose
DP1210833			
Lot(s): 22			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1114906	HISTORICAL	SURVEY	SUBDIVISION
DP1158458	HISTORICAL	SURVEY	SUBDIVISION
DP1181326	HISTORICAL	SURVEY	SUBDIVISION
DP1206630	HISTORICAL	SURVEY	SUBDIVISION
DP1212954			
Lot(s): 2			
DP828932	HISTORICAL	SURVEY	SUBDIVISION
DP1070195	HISTORICAL	SURVEY	SUBDIVISION
DP1233414			
Lot(s): 18, 19			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1114906	HISTORICAL	SURVEY	SUBDIVISION
DP1158458	HISTORICAL	SURVEY	SUBDIVISION
DP1181326	HISTORICAL	SURVEY	SUBDIVISION
DP1206630	HISTORICAL	SURVEY	SUBDIVISION
DP1210833	HISTORICAL	SURVEY	SUBDIVISION
DP1259786			
Lot(s): 211, 212			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
Lot(s): 212			
SP108218	PRE-ALLOCATED	UNAVAILABLE	STRATA PLAN
DP1263868			
Lot(s): 691			
DP1028690	HISTORICAL	COMPILATION	DEPARTMENTAL
DP1273097			
Lot(s): 1			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION
DP1014013	HISTORICAL	SURVEY	SUBDIVISION
DP1084241	HISTORICAL	SURVEY	SUBDIVISION
DP1114906	HISTORICAL	SURVEY	SUBDIVISION
DP1158458	HISTORICAL	SURVEY	SUBDIVISION
DP1181326	HISTORICAL	SURVEY	SUBDIVISION
DP1206630	HISTORICAL	SURVEY	SUBDIVISION
DP1292314			
Lot(s): 3, 4			
DP236679	HISTORICAL	SURVEY	SUBDIVISION
DP1140278	HISTORICAL	SURVEY	SUBDIVISION
SP85514			
DP818893	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1003887	HISTORICAL	SURVEY	SUBDIVISION

Plan	Surv/Comp	Purpose
DP21465	SURVEY	UNRESEARCHED
DP236679	SURVEY	SUBDIVISION
DP245303	SURVEY	SUBDIVISION
DP270464	SURVEY	COMMUNITY PLAN
DP397504	SURVEY	UNRESEARCHED
DP537919	SURVEY	SUBDIVISION
DP550976	SURVEY	SUBDIVISION
DP576321	SURVEY	SUBDIVISION
DP605026	SURVEY	SUBDIVISION
DP625788	SURVEY	RESUMPTION OR ACQUISITION
DP626639	COMPILATION	SUBDIVISION
DP703301	SURVEY	SUBDIVISION
DP708662	SURVEY	SUBDIVISION
DP753168	COMPILATION	CROWN ADMIN NO.
DP774352	SURVEY	SUBDIVISION
DP793101	COMPILATION	CONSOLIDATION
DP806842	SURVEY	SUBDIVISION
DP813894	SURVEY	SUBDIVISION
DP815120	SURVEY	SUBDIVISION
DP816792	SURVEY	SUBDIVISION
DP818893	SURVEY	RESUMPTION OR ACQUISITION
DP840292	SURVEY	SUBDIVISION
DP859640	SURVEY	RESUMPTION OR ACQUISITION
DP862300	SURVEY	SUBDIVISION
DP880517	SURVEY	SUBDIVISION
DP1001067	SURVEY	SUBDIVISION
DP1003887	SURVEY	SUBDIVISION
DP1007628	COMPILATION	RESUMPTION OR ACQUISITION
DP1014013	SURVEY	SUBDIVISION
DP1017204	SURVEY	SUBDIVISION
DP1053874	COMPILATION	DEPARTMENTAL
DP1074972	COMPILATION	DEPARTMENTAL
DP1074973	COMPILATION	DEPARTMENTAL
DP1078030	SURVEY	SUBDIVISION
DP1084241	SURVEY	SUBDIVISION
DP1091613	SURVEY	SUBDIVISION
DP1091944	SURVEY	SUBDIVISION
DP1107432	COMPILATION	DEPARTMENTAL
DP1114906	SURVEY	SUBDIVISION
DP1124903	SURVEY	SUBDIVISION
DP1130058	COMPILATION	CROWN LAND CONVERSION
DP1134257	SURVEY	SUBDIVISION
DP1140278	SURVEY	SUBDIVISION
DP1142798	SURVEY	RESUMPTION OR ACQUISITION
DP1144884	COMPILATION	CROWN LAND CONVERSION
DP1158458	SURVEY	SUBDIVISION
DP1163892	SURVEY	SUBDIVISION
DP1163892	UNRESEARCHED	SUBDIVISION
DP1172370	COMPILATION	CROWN ROAD ENCLOSURE
DP1176042	SURVEY	SUBDIVISION
DP1181326	SURVEY	SUBDIVISION
DP1210833	SURVEY	SUBDIVISION
DP1212954	SURVEY	SUBDIVISION
DP1233414	SURVEY	SUBDIVISION
DP1259786	SURVEY	SUBDIVISION
DP1263868	SURVEY	SUBDIVISION
DP1273097	COMPILATION	CONSOLIDATION
DP1292314	SURVEY	SUBDIVISION
SP85514	COMPILATION	STRATA PLAN

10893135

NEW SOUTH WALES

[redacted]CATE OF TITLE

[redacted]PERTY ACT, 1900, as amended.

Prior Title (Crown Grant)
Vol. 8449 Fol. 147

Vol. 10893 Fol. 135

Edition issued 30-9-1968

(Page 1) Vol. 10893 Fol. 135

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.

CANCELLED

Witness *M Flint*

[signature]
Registrar General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND

SCHEDULE OF SHORT BOUNDARIES

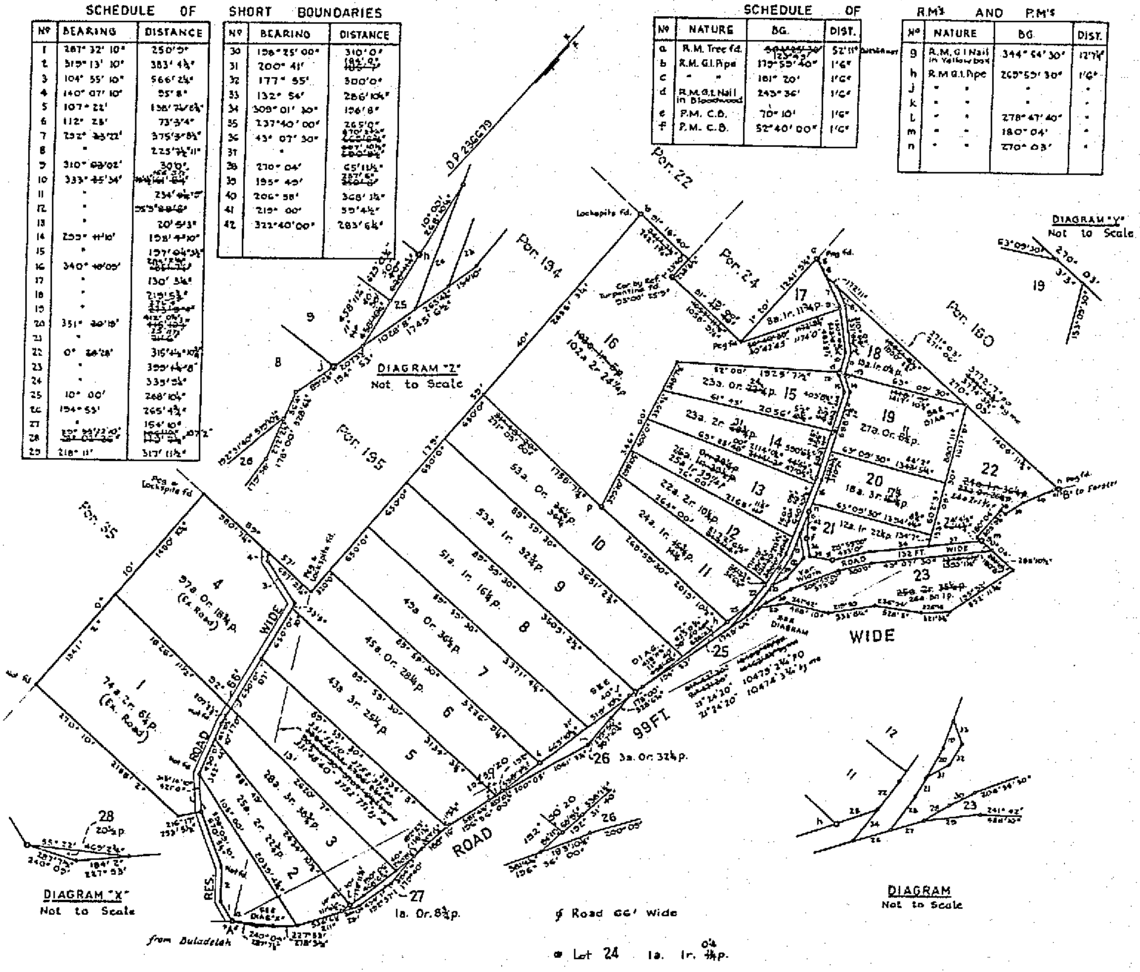
Nº	BEARING	DISTANCE
1	287° 32' 10"	250'5"
2	319° 13' 30"	383' 4¾"
3	104° 55' 10"	566' 2¼"
4	140° 07' 10"	55' 8"
5	107° 22'	138' 7½"/8¼"
6	112° 28'	73'3/4"
7	~~252° 35'22'~~	375'3"8½"
8	"	225'7½"11"
9	310° ~~03'~~02'	30'0"
10	333° ~~45'~~34'	[illegible]
11	"	234' 9½"7"
12	"	[illegible]
13	"	20'5"3"
14	255° 41'10'	158' 4"10"
15	"	157' 04"3½"
16	340° 40'05'	[illegible]
17	"	130' 3¼"
18	"	219'5¾"
19	"	[illegible]
20	351° 30'18'	[illegible]
21	"	[illegible]
22	0° 36'28'	315'4¼"10¾"
23	"	399'4¼"8"
24	"	335'5¼"
25	10° 00'	268' 10¼"
26	154° 53'	265' 4¾"
27	"	154' 10"
28	[illegible]	[illegible]
29	218° 11'	317' 11½"

Nº	BEARING	DISTANCE
30	156° 25' 00"	310' 0"
31	200° 41'	[illegible]
32	177° 55'	300'0"
33	132° 54'	286' 10½"
34	309° 01' 30"	156' 8"
35	137°40' 00"	265'0"
36	43° 07' 30"	[illegible]
37	"	[illegible]
38	270° 04'	65' 11½"
39	195° 49'	[illegible]
40	206° 58'	368' 1½"
41	219° 00'	59'4½"
42	322°40'00"	283' 6¼"

SCHEDULE OF R.M's AND P.M's

Nº	NATURE	BG.	DIST.
a	R.M. Tree Fd.	~~[illegible]~~ 125°49'	52' 11"
b	R.M. G.I. Pipe	175° 55' 40"	1'6"
c	" "	181° 20'	1'6"
d	R.M. G.I. Nail in Bloodwood	243° 36'	1'6"
e	P.M. C.B.	70° 10'	1'6"
f	P.M. C.B.	52°40' 00"	1'6"

Nº	NATURE	BG.	DIST.
g	R.M. G.I. Nail in Yellow box	344° 54' 30"	12'7¼"
h	R.M. G.I. Pipe	265° 59' 30"	1'6"
j	" "	"	"
k	" "	"	"
l	" "	278° 47' 40"	"
m	" "	180° 04'	"
n	" "	270° 03'	"



S

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 23 in Deposited Plan 236679 at Pacific Palms in the Shire of Stroud, Parish of Forster, and County of Gloucester. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~LUCAS & TAIT RANCHES PTY. LIMITED.~~

SECOND SCHEDULE

GRM 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
AA 2. Restrictions on transfer - See Section 272 Crown Lands Consolidation Act, 1913 (C.P. 1950/15 Taree).
~~3. Mortgage No.K351150 to Milne Browne & Co. Limited. Entered 22-6-1966.~~ Discharged L498383
~~4. Mortgage No.K355033 to Cambridge Credit Corporation Limited. Entered 22-6-1966.~~ Discharged L857681.

[signature]
Registrar General.

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.

RG 262

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

V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
Raymond Leslie Young of Edgecliff, Seaman	Transfer	L857682	25.9.1968	22.6.1970	J Watson

CANCELLED

SEE AUTO FOLIO

L857681 Dom 2 ic cert 3 M
M331201 D/11

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
Covenant	L857682		Created by Transfer No L857682.	22.6.1970.	J Watson			
Mortgage	L857683	25.9.1968	to: Cambridge Credit Corporation Limited.	22.6.1970	J Watson	Discharged	M331201.	J Watson

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

No. 1972/2406

NEW SOUTH WA... three dollars

STAMP DUTY SYDNEY, N.S.W.

New South Wales

11990208

Vol. 11990 Fol. 208
Registered 21-12-1972
Registrar General.

CANCELLED

(Page 1) Vol. 11990 Fol. 208

GRANT OF LAND
(PURCHASED BY CONDITIONAL SALE)

C.P. 1942/7
C.P. 1946/11
TAREE

ELIZABETH the SECOND, by the Grace of God of the United Kingdom, Australia and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith:-

TO ALL to whom these Presents shall come, Greeting:-

WHEREAS THERESA WILLMOTT a Married Woman of 34 Punch Street Artarmon in Our State of New South Wales and MARY EGAN a Married Woman of 8 Wheatleigh Street Crows Nest in Our said State (hereinafter called the GRANTEES) are the holders of Original Conditional Purchase No. 1942/7 and Additional Conditional Purchase No. 1946/11 both in the Land District of Taree comprising the land hereinafter described and intended to be hereby granted which holdings were acquired AS TO PART THEREOF in right of Original Conditional Purchase No. 1942/7 aforesaid by way of conversion of part of a Crown-lease and AS TO OTHER PART THEREOF in right of Additional Conditional Purchase No. 1946/11 aforesaid by way of conversion of a Conditional Lease which itself was a conversion of the residue of the aforesaid Crown-lease AND WHEREAS the sum of one thousand two hundred dollars being the purchase money payable for the said land hereinafter described has been duly paid and all things required by law to be done to entitle the GRANTEES to a Grant of the fee simple of the said land hereinafter described subject to the Reservations and Exceptions hereinafter contained have been done and performed NOW THESE PRESENTS WITNESS That in consideration of the premises WE DO HEREBY GRANT unto the GRANTEES Subject to the Reservations and Exceptions hereinafter contained ALL THAT parcel of land in Our said State containing by admeasurement three hundred and sixty four point two hectares be the same more or less situated in the County of Gloucester Parish of Forster Portions 87 and 168 as shown in plans catalogued Nos. G.2257-1497 and G.4341-1497 in the Department of Lands excepting out of the said parcel of land the road shown in the plan on page 3 hereof the area of which is not included in the above stated area As per plan on page 3 hereof TO HOLD unto the GRANTEES

FOR ENDORSEMENTS SEE PAGE 4

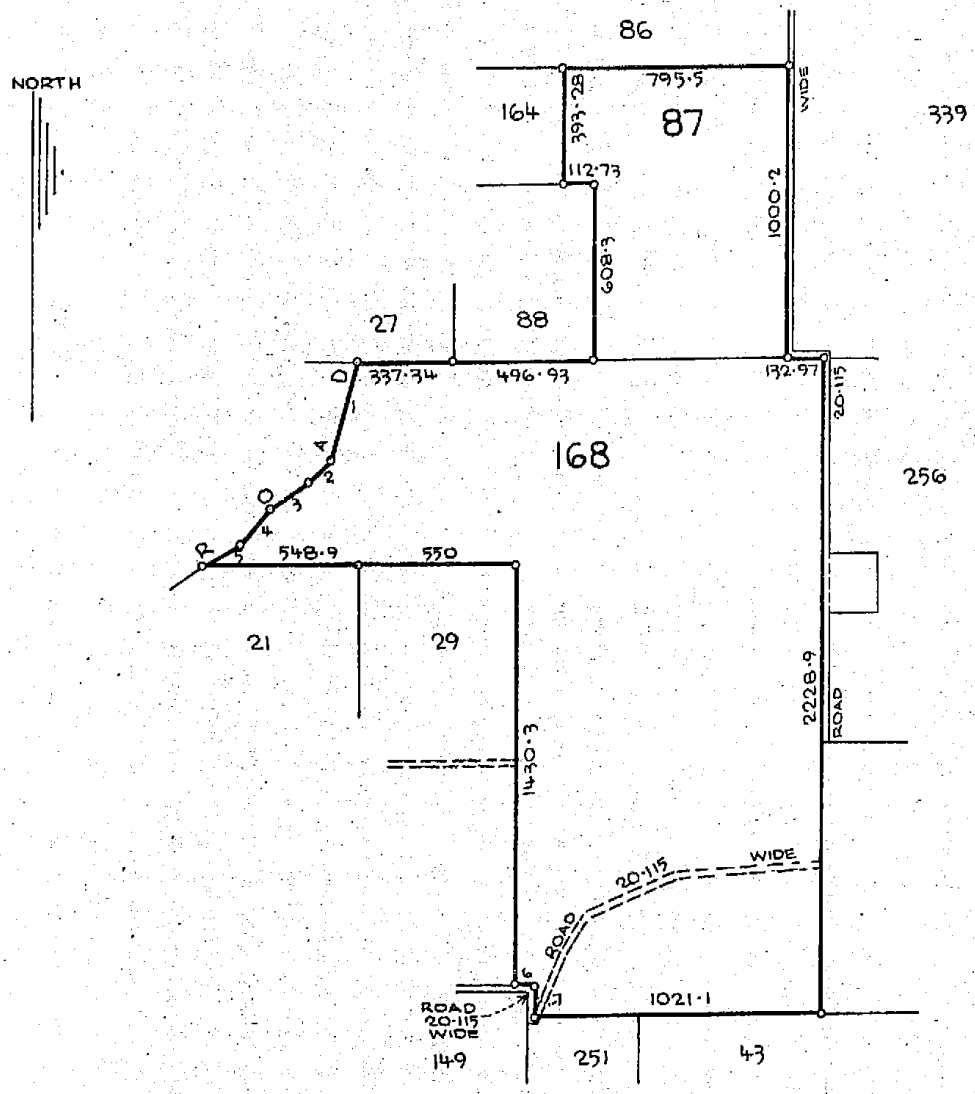
in fee simple as joint tenants PROVIDED NEVERTHELESS AND WE DO HEREBY RESERVE AND EXCEPT unto Us Our Heirs and Successors all minerals which the said land contains with full power and authority for Us Our Heirs and Successors and such person or persons as shall from time to time be authorised by Us or Them to enter upon the said land and to search for mine dig and remove the said minerals AND ALSO all such parts and so much of the said land as may hereafter be required for public ways in over and through the same to be set out by Our Governor for the time being of Our said State or some person by him authorised in that respect with full power for Us Our Heirs and Successors and for Our Governor as aforesaid by such person or persons as shall be by Us Them or him authorised in that behalf to make and conduct all such public ways And the right of full and free ingress egress and regress into out of and upon the said land for the several purposes aforesaid or any of them IN TESTIMONY WHEREOF We have caused this Our Grant to be Sealed with the Seal of Our said State

WITNESS Our Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this eighth day of December in the twenty first year of Our Reign and in the year of Our Lord one thousand nine hundred and seventy two

A. R. Cutler

Governor.

PLAN REFERRED TO



REFERENCE	
LINE	DISTANCE
1	339·57
2	108·99
3	159·33
4	164·19
5	148·52
6	77·25
7	103

Attention is directed to the provisions of Section 272 of the Crown Lands Consolidation Act, 1913, as amended relating to restrictions on transfer.

V6132

AREA : 364·2 ha
THIS AREA DOES NOT INCLUDE THE AREA OF THE ROAD

SCALE
0 250 500 1000
LENGTHS ARE IN METRES

Vol. 11990 Fol 208

R.P. 572 V. C. N. Blight, Government Printer.

SCHEDULE OF REGISTERED PROPRIETORS

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
~~International Agency Corporation. Registered~~					
~~Sohope Pty. Limited by Transfers V526904, V526905. Registered 11.2.1985.~~					
Suantrakel Holdings Pty. Limited as to Portion 87 and Sohope Pty. Limited as regards the residue being Portion 168 by Transfer W607665. Registered 16.2.1987.					
This folio is cancelled as to part being portion 87 parish of FORSTER county of GLOUCESTER and new folio 87/753168 created. This folio is cancelled as to ~~part~~ residue being portion 168 parish of FORSTER county of GLOUCESTER and new folio 168/753168 created.					

V6132 K
V363353 X K
V526903 W/X
4 T.
5 T.
6 M
CT 7-6-85
V777977 D K
V937001 X
W607662 W
— 3 D
— 4 D
— 5
— 6 T RNC
~~106~~
W738231 D
32 T

SCHEDULE OF ENCUMBRANCES ETC.

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
V6132 Request.			Attention is directed to Section 8 of the Land Aggregation Tax Management Act, 1971. Registered 14-5-1984.					
~~V365383~~			~~Caveat by International Agency Corporation. Registered 26-9-1984.~~			Withdrawn	V526903	
V526906			Mortgage to Australia and New Zealand Banking Group Limited. Registered 11.2.1985.					
~~V777977~~			~~Mortgage to K. Simmonds Finance Pty. Limited. Registered 5.7.1985.~~			Discharged	W607663	
~~V937001~~			~~Caveat by Suantrakel Holdings Pty. Limited. Registered 11-9-1985.~~			Withdrawn	W607662	
V526906 Mortgage.	W607664		Discharged as to part being Portion 87. Registered 16.2.1987.					

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

Form: 01T
Release: 2.1
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900

AC590570H

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

STAMP DUTY Office of State Revenue use only

?f?x???NEW SOUTH WALES DUTY
04-09-2006 0003705943-001
SECTION 281-ORIGINAL
NO DUTY PAYABLE

(A) **TORRENS TITLE** Folio Identifiers 110/1091944 and 112/1091944

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
28A	LLPN: 124247U THOMSON LAWPOINT GALLOWAYS Reference: BAKSY / Blueys	T TW (Sheriff)

(C) **TRANSFEROR** Blueys Estate Pty Limited ABN 13 001 200 951

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 5,635,000 and as regards

(E) **ESTATE** the land specified above transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** Blueys Holdings (SPV) Pty Limited ACN 110 332 495

(I) **TENANCY:**

(J) **DATE** 14th August 2006

Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.
Corporation: Blueys Estate Pty Limited
Authority: section 127 of the Corporations Act 2001

Signature of authorised person: N. J Dries
Name of authorised person: Valerie Jean Dries
Office held: Director/Secretary

Signature of authorised person: C. Dries
Name of authorised person: CARL DRIES.
Office held: Director

Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.
Corporation: Blueys Holdings (SPV) Pty Limited
Authority: section 127 of the Corporations Act 2001

Signature of authorised person: N. J Dries
Name of authorised person: Valerie Jean Dries
Office held: Director/Secretary

Signature of authorised person: C. Dries
Name of authorised person: CARL DRIES.
Office held: Director

All handwriting must be in block capitals.

Reg 74

Land and Property Information NSW.

PLAN FORM 2 (APPROVED FORM 3)

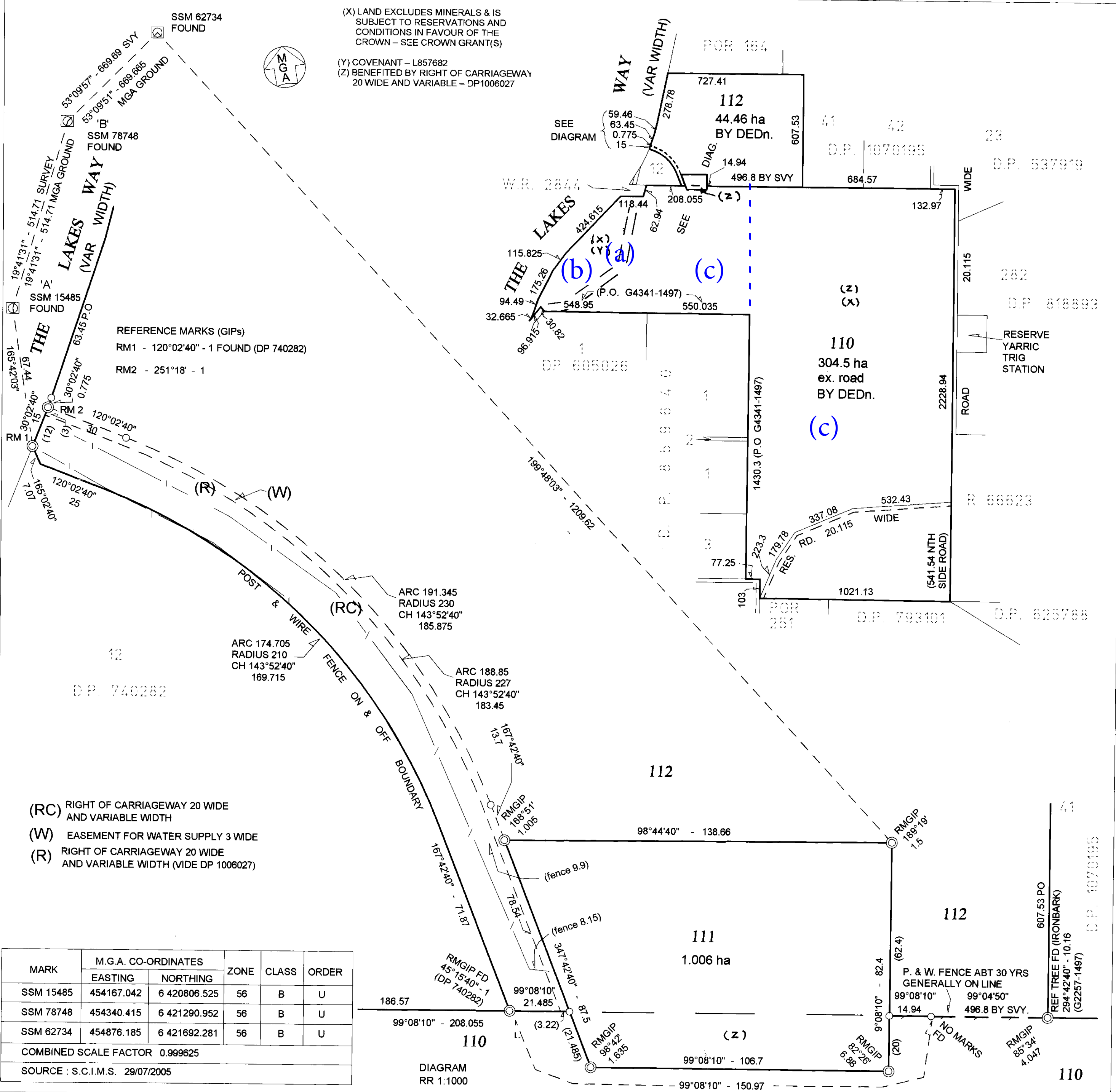
Plan drawing only to appear in this space

SIGNATURES AND SEALS ONLY

BLUEYS ESTATE PTY. LIMITED A.C.N. 001 202 951 Common Seal

C. Dries CARL DRIES DIRECTOR

V. J. Dries VALERIE JEAN DRIES DIRECTOR



MARK	M.G.A. CO-ORDINATES		ZONE	CLASS	ORDER
	EASTING	NORTHING			
SSM 15485	454167.042	6 420806.525	56	B	U
SSM 78748	454340.415	6 421290.952	56	B	U
SSM 62734	454876.185	6 421692.281	56	B	U
COMBINED SCALE FACTOR 0.999625					
SOURCE : S.C.I.M.S. 29/07/2005					

(RC) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH
(W) EASEMENT FOR WATER SUPPLY 3 WIDE
(R) RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH (VIDE DP 1006027)

Department of Land and Water Conservation Approval

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

Signature : ....

Date : ....

File Number : ....

Office : ....

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed SUBDIVISION set out herein

* (insert subdivision or new road)

* Authorised Person/~~General Manager/Accredited Certifier~~

Consent Authority: GREAT LAKES COUNCIL

Date of Endorsement: 16/11/05

Accreditation no. ....

Subdivision Certificate no. 8/06

File no. DIPNR DA 108-5-2004

Note :
When the plan is to be lodged electronically in Land and Property Information, it should include a signature in an electronic or digital format approved by the Registrar General.

* Delete if inapplicable

SURVEYORS REFERENCE : 102.03 (FILE 2005M7100 (939) PARTIAL SURVEY)

Table of mm 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390

WARNING CREASING OR FOLDING WILL LEAD TO REJECTION

DP1091944

Registered : [seal] 5.1.2006

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map : PARISH

Last Plan : DP722686,DP740282, DP236679, 4341.1497

PLAN OF SUBDIVISION OF LOT 23 DP 236679, LOT 168 DP 753168, LOT 1 DP 722686 & LOT 11 DP 740282

Lengths are in metres — Reduction Ratio 1 : 15,000

L.G.A. : GREAT LAKES

Locality : PACIFIC PALMS

Parish : FORSTER

County : GLOUCESTER

~~This is sheet 1 of my plan in sheets~~ (Delete if inapplicable)

Surveying Regulations 2001

I, GEOFFREY ALLAN GOLLEDGE of P.O. BOX 132 MAITLAND NSW 2320 a surveyor registered under the Surveying Act 2002, hereby certify that the survey represented in this plan is accurate,has been made in accordance with the Surveying Regulations 2001 and was completed on 30 AUGUST 2005. The survey relates to LOT 111 AND CONNECTIONS (here specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey)

(Signature) .... Dated : 8/9/2005

Surveyor registered under the Surveying Act 2002

Datum Line : 'A' - 'B'

Type : ~~Urban~~ / Rural RURAL

Plans used in preparation of Survey/~~Compilation~~

DP 1006027, DP 701436, R34674 1603
DP 236679, DP 722686, DP 605026, DP 740282
G4341-1497, DP 859640, G2257-1497
G4231-1497, G2256-1497

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements restrictions on the use of land or positive covenants.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919 AS AMENDED IT IS INTENDED TO CREATE :

1. RIGHT OF CARRIAGEWAY 20 WIDE AND VARIABLE WIDTH.
2. EASEMENT FOR WATER SUPPLY 3 WIDE.

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
5/6/2024 12:39PM

FOLIO: 23/236679

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 10893 FOL 135

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
10/3/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
25/3/1988	X445969	TRANSFER	EDITION 1
14/4/1998	3915290	DEPARTMENTAL DEALING	
5/1/2006	DP1091944	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 5/6/2024

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
5/6/2024 12:39PM

FOLIO: 168/753168

First Title(s): VOL 11990 FOL 208
Prior Title(s): VOL 11990 FOL 208

Recorded	Number	Type of Instrument	C.T. Issue
6/3/1987	DP753168	DEPOSITED PLAN	FOLIO CREATED EDITION 1
10/4/1987	W738231	DISCHARGE OF MORTGAGE	
10/4/1987	W738232	TRANSFER	EDITION 2
5/5/1995	O206460	MORTGAGE	EDITION 3
13/8/1999	6089313	DISCHARGE OF MORTGAGE	EDITION 4
8/9/1999	DP1006027	DEPOSITED PLAN	EDITION 5
5/1/2006	DP1091944	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 5/6/2024

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
5/6/2024 12:39PM

FOLIO: 168/753168

First Title(s): VOL 11990 FOL 208
Prior Title(s): VOL 11990 FOL 208

Recorded	Number	Type of Instrument	C.T. Issue
6/3/1987	DP753168	DEPOSITED PLAN	FOLIO CREATED EDITION 1
10/4/1987	W738231	DISCHARGE OF MORTGAGE	
10/4/1987	W738232	TRANSFER	EDITION 2
5/5/1995	O206460	MORTGAGE	EDITION 3
13/8/1999	6089313	DISCHARGE OF MORTGAGE	EDITION 4
8/9/1999	DP1006027	DEPOSITED PLAN	EDITION 5
5/1/2006	DP1091944	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

advlegs PRINTED ON 5/6/2024

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 110/1091944

SEARCH DATE	TIME	EDITION NO	DATE
5/6/2024	12:34 PM	2	12/9/2006

LAND

LOT 110 IN DEPOSITED PLAN 1091944
AT FORSTER
LOCAL GOVERNMENT AREA MID-COAST
PARISH OF FORSTER COUNTY OF GLOUCESTER
TITLE DIAGRAM DP1091944

FIRST SCHEDULE

BLUEYS HOLDINGS (SPV) PTY LIMITED (T AC590570)

SECOND SCHEDULE (5 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN AFFECTING THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM - SEE CROWN GRANT(S)
2 LAND EXCLUDES THE ROAD(S) SHOWN IN THE TITLE DIAGRAM
3 L857682 COVENANT AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 DP1006027 RIGHT OF CARRIAGEWAY 20 METRE(S) WIDE APPURTENANT TO THE PART(S) OF THE LAND SHOWN SO BENEFITED IN THE TITLE DIAGRAM
* 5 DP1163892 RIGHT OF ACCESS VARIABLE WIDTH APPURTENANT TO THE LAND ABOVE DESCRIBED

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

advlegs PRINTED ON 5/6/2024

Appendix B

Laboratory Test Result Sheets

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

REGIONAL GEOTECHNICAL SOLUTIONS

Client: Blueys Estate Pty Ltd
Job No. RGS03399.1
Project: Proposed Caravan Park and Cabins
Location: 3611 The Lakes Way, charlotte Bay

SAMPLE	DEPTH (m)	MATERIAL	ASBESTOS	TOTAL RECOVERABLE HYDROCARBONS					PAH		Pesticides Total		BTEX		PCBs	Heavy Metals							
				C6-C10	C10-C16	C16-C34	C34-C40	TOTAL 10-40	Total	b-a-p (TEQ)	OCP	OPP	Sum	Napthalene		As	Cd	Cr (total)#	Cu	Pb	Ni	Zn	Hg
SS1	0.0 - 0.2	Topsoil	No	<10	<50	160	<100	160	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	8	6	17	5	44	<0.1
SS2	Stockpile	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	12	<1	6	9	16	3	34	<0.1
SS3	0.0 - 0.2	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	<2	<5	<5	<2	<5	<0.1
SS4	Stockpile	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	6	<1	7	6	10	7	31	<0.1
SS5	Stockpile	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	2	<5	8	<2	29	<0.1
SS6	0.0 - 0.2	Topsoil	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	5	<5	7	<2	18	<0.1
SS101	0.0 - 0.2	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	5	<1	3	<5	15	<2	33	<0.1
SS102	0.0 - 0.2	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.1	<5	<1	7	8	6	7	32	<0.1
SS103	Stockpile	Fill	No	<10	<50	<100	<100	<50	<0.5	<0.5	0.43	<0.2	<0.2	<1	<0.1	<5	<1	<2	<5	<5	<2	23	<0.1
D1 (duplicate of SS1 0.0 - 0.2)	0.0 - 0.2	Topsoil	----	----	----	----	----	----	----	----	----	----	----	----	----	14	<1	12	<5	17	4	22	<0.1
RINSATE (µg/L)		Water	----	<20	----	----	----	----	----	----	----	----	<1	<5	----	----	----	----	----	----	----	----	----
D1RPD%			----	----	----	----	----	----	----	----	----	----	----	----	----	**43.5**	0.0	40.0	18.2	0.0	22.2	**66.7**	0.0
CRITERIA (NEPM 2013)																							
Health Investigation Level (HIL):*	*0.001% (w/w)*							*300*	*3*	*240*	*6*			*1*	*100*	*20*	*100#*	*6000*	*300*	*400*	*7400*	*40*
*Health Screening Level (HSL)***		*50*	*110*	*NL*	*NL*	*NL*																	
*Ecological Screening Level (ESL)****		*280*	*120*	*1300*	*5600*	*NL*						*45-125*											
Ecological Investigation Level (EIL)@										*180*			*170*		*100*				*1100*				

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

REGIONAL GEOTECHNICAL SOLUTIONS

Client: Blueys Estate Pty Ltd
Job No. RGS03399.1
Project: Proposed Caravan Park and Cabins
Location: 3611 The Lakes Way, Charlotte Bay

Summary Table - Comparison of Contamination Analysis Results With Waste Classification Threshold Limits (Results in mg/kg)

SAMPLE	MATERIAL	DEPTH (m)	ASBESTOS	TOTAL PETROLEUM HYDROCARBONS					PAH	PCBs (Total)	OC/OP Pesticides	HEAVY METALS									
				C6-C9	C10-C14	C15-C28	C29-C36	TOTAL				Arsenic	TCLP	Cadmium	TCLP	Nickel	TCLP	Lead	TCLP	Mercury	TCLP
SS1	Topsoil	0.0 - 0.2	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	<5		<1		5		17		<0.1	
SS2	Fill	Stockpile	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	12		<1		3		16		<0.1	
SS3	Topsoil	0.0 - 0.2	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	<5		<1		<2		<5		<0.1	
SS4	Fill	Stockpile	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	6		<1		7		10		<0.1	
SS5	Fill	Stockpile	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	<5		<1		<2		8		<0.1	
SS6	Topsoil	0.0 - 0.2	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	<5		<1		<2		7		<0.1	
SS101	Fill	0.0 - 0.2	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	5		<1		<2		15		<0.1	
SS102	Fill	0.0 - 0.2	No	<10	<50	<100	<100	<50	<0.5	<0.1	<0.2	<5		<1		7		6		<0.1	
SS103	Fill	Stockpile	No	<10	<50	<100	<100	<50	<0.5	<0.1	0.43	<5		<1		<2		<5		<0.1	
THRESHOLD LIMITS																					
GENERAL SOLID WASTE	*CT1*											*100*		*20*		*40*		*100*		*4*	
	SCC1			*650*				*10000*	*200*	*<50*	*250*	*500*		*100*		*1050*		*1500*		*50*	
	TCLP1											*5*		*1*		*2*		*5*		*0.2*	
RESTRICTED SOLID WASTE	*CT2*											*400*		*80*		*160*		*400*		*16*	
	SCC2			*2600*				*40000*	*800*	*<50*	*1000*	*2000*		*400*		*4200*		*6000*		*200*	
	TCLP2											*20*		*4*		*8*		*20*		*0.8*	

NOTES

CT	Contaminant Threshold (without TCLP)
SCC	Specific Contaminant Concentrations (used with TCLP)
TCLP	Toxicity Characteristics Leaching Procedure (used with SCC)
Shaded	Exceeds General Solid Waste Threshold = Restricted Solid Waste
BOLD and Shaded	Exceeds Restricted Solid Waste Threshold = Hazardous Waste

CRITERIA:

Waste Classification - Classifying Waste, Part 1 (*NSW EPA 2014*)

CERTIFICATE OF ANALYSIS

Work Order	: **ES2413466**	Page	: 1 of 14
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: ANDREW HILLS	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: RGS03399.1 Proposed Caravan Park and Cabins	Date Samples Received	: 26-Apr-2024 07:54
Order number	: ----	Date Analysis Commenced	: 29-Apr-2024
C-O-C number	: ----	Issue Date	: 03-May-2024 17:55
Sampler	: ----		
Site	: 3611 The Lakes Way, Charlotte Bay		
Quote number	: EN/222		
No. of samples received	: 8		
No. of samples analysed	: 8		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS1	SS2	SS3	SS4	SS5
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00
Compound	CAS Number	LOR	Unit		ES2413466-001	ES2413466-002	ES2413466-003	ES2413466-004	ES2413466-005
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		24.6	5.8	20.7	5.5	6.0
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	No	No	No	No
Asbestos (Trace)	1332-21-4	-	-		No	No	No	No	No
Asbestos Type	1332-21-4	-	--		-	-	-	-	-
Synthetic Mineral Fibre	----	-	--		No	No	No	No	No
Organic Fibre	----	-	--		No	No	No	No	No
Sample weight (dry)	----	0.01	g		253	376	279	497	426
APPROVED IDENTIFIER:	----	-	--		A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	12	<5	6	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		8	6	<2	7	2
Copper	7440-50-8	5	mg/kg		6	9	<5	6	<5
Lead	7439-92-1	5	mg/kg		17	16	<5	10	8
Nickel	7440-02-0	2	mg/kg		5	3	<2	7	<2
Zinc	7440-66-6	5	mg/kg		44	34	<5	31	29
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS1	SS2	SS3	SS4	SS5
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00
Compound	CAS Number	LOR	Unit		ES2413466-001	ES2413466-002	ES2413466-003	ES2413466-004	ES2413466-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS1	SS2	SS3	SS4	SS5
			Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00
Compound	CAS Number	LOR	Unit	ES2413466-001	ES2413466-002	ES2413466-003	ES2413466-004	ES2413466-005
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS1	SS2	SS3	SS4	SS5
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00
Compound	CAS Number	LOR	Unit		ES2413466-001	ES2413466-002	ES2413466-003	ES2413466-004	ES2413466-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		**160**	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**160**	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS1	SS2	SS3	SS4	SS5
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00	19-Apr-2024 00:00
Compound	CAS Number	LOR	Unit		ES2413466-001	ES2413466-002	ES2413466-003	ES2413466-004	ES2413466-005
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**112**	**98.0**	**84.8**	**125**	**108**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**97.9**	**126**	**84.3**	**124**	**136**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**113**	**120**	**91.2**	**90.6**	**139**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**93.3**	**98.9**	**92.0**	**95.7**	**93.1**
2-Chlorophenol-D4	93951-73-6	0.5	%		**93.1**	**95.6**	**100**	**93.8**	**97.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**95.0**	**85.9**	**85.7**	**81.0**	**85.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**104**	**104**	**99.0**	**99.1**	**103**
Anthracene-d10	1719-06-8	0.5	%		**98.3**	**105**	**98.4**	**97.9**	**101**
4-Terphenyl-d14	1718-51-0	0.5	%		**107**	**110**	**103**	**106**	**110**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**64.4**	**85.7**	**73.5**	**79.5**	**79.2**
Toluene-D8	2037-26-5	0.2	%		**67.1**	**84.3**	**68.3**	**77.1**	**77.6**
4-Bromofluorobenzene	460-00-4	0.2	%		**92.5**	**114**	**94.9**	**103**	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS6	D1	----	----	----
			Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2413466-006	ES2413466-007	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**11.5**	**21.4**	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	----	----	----	----
Asbestos (Trace)	1332-21-4	-	-	**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--	**-**	----	----	----	----
Synthetic Mineral Fibre	----	-	--	**No**	----	----	----	----
Organic Fibre	----	-	--	**No**	----	----	----	----
Sample weight (dry)	----	0.01	g	**268**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	**A. SMYLIE**	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**14**	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**5**	**12**	----	----	----
Copper	7440-50-8	5	mg/kg	<5	<5	----	----	----
Lead	7439-92-1	5	mg/kg	**7**	**17**	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	**4**	----	----	----
Zinc	7440-66-6	5	mg/kg	**18**	**22**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS6	D1	----	----	----
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2413466-006	ES2413466-007	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS6	D1	----	----	----
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2413466-006	ES2413466-007	--------	--------	--------
					Result	Result	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS6	D1	----	----	----
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2413466-006	ES2413466-007	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS6	D1	----	----	----
				Sampling date / time	19-Apr-2024 00:00	19-Apr-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2413466-006	ES2413466-007	--------	--------	--------
					Result	Result	----	----	----
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**120**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**122**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**112**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**81.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**92.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**80.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**98.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**109**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**102**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**77.0**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**73.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**98.4**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	RINSATE1	----	----	----	----
				Sampling date / time	19-Apr-2024 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2413466-008	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**107**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**96.0**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**103**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	SS1 - 19-Apr-2024 00:00	Soil sample.
EA200: Description	SS2 - 19-Apr-2024 00:00	Soil sample.
EA200: Description	SS3 - 19-Apr-2024 00:00	Soil sample.
EA200: Description	SS4 - 19-Apr-2024 00:00	Soil sample.
EA200: Description	SS5 - 19-Apr-2024 00:00	Soil sample.
EA200: Description	SS6 - 19-Apr-2024 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	72	143
Toluene-D8	2037-26-5	75	131
4-Bromofluorobenzene	460-00-4	73	137

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CERTIFICATE OF ANALYSIS

Work Order	: **ES2415878**	Page	: 1 of 9
Client	: **REGIONAL GEOTECHNICAL SOLUTION**	Laboratory	: Environmental Division Sydney
Contact	: Andrew Hills	Contact	: Customer Services ES
Address	: 44 BENT STREET WINGHAM NSW, AUSTRALIA 2429	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 6553 5641	Telephone	: +61-2-8784 8555
Project	: RGS03399.1 Proposed Caravan Park and Cabins	Date Samples Received	: 16-May-2024 14:03
Order number	: ----	Date Analysis Commenced	: 20-May-2024
C-O-C number	: ----	Issue Date	: 23-May-2024 16:16
Sampler	: ----		
Site	: 3611 The Lakes Way, Charlotte Bay		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP068: Positive results have been confirmed by re-extraction and re-analysis.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS101	SS102	SS103	----	----
			Sampling date / time	10-May-2024 00:00	10-May-2024 00:00	10-May-2024 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2415878-001	ES2415878-002	ES2415878-003	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**24.4**	**10.1**	**5.8**	**----**	**----**
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**----**	**----**
Asbestos (Trace)	1332-21-4	-	-	**No**	**No**	**No**	**----**	**----**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**----**	**----**
Synthetic Mineral Fibre	----	-	--	**No**	**No**	**No**	**----**	**----**
Organic Fibre	----	-	--	**No**	**No**	**No**	**----**	**----**
Sample weight (dry)	----	0.01	g	**243**	**387**	**431**	**----**	**----**
APPROVED IDENTIFIER:	----	-	--	**J. PAGE**	**J. PAGE**	**J. PAGE**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**5**	<5	<5	**----**	**----**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	**----**	**----**
Chromium	7440-47-3	2	mg/kg	**3**	**7**	<2	**----**	**----**
Copper	7440-50-8	5	mg/kg	<5	**8**	<5	**----**	**----**
Lead	7439-92-1	5	mg/kg	**15**	**6**	<5	**----**	**----**
Nickel	7440-02-0	2	mg/kg	<2	**7**	<2	**----**	**----**
Zinc	7440-66-6	5	mg/kg	**33**	**32**	**23**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	**----**	**----**
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	**----**	**----**
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS101	SS102	SS103	----	----
				Sampling date / time	10-May-2024 00:00	10-May-2024 00:00	10-May-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2415878-001	ES2415878-002	ES2415878-003	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	**0.11**	----	----
^ **Total Chlordane (sum)**	----	0.05	mg/kg		<0.05	<0.05	**0.16**	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	**0.16**	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS101	SS102	SS103	----	----
			Sampling date / time	10-May-2024 00:00	10-May-2024 00:00	10-May-2024 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2415878-001	ES2415878-002	ES2415878-003	--------	--------
				Result	Result	Result	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS101	SS102	SS103	----	----
				Sampling date / time	10-May-2024 00:00	10-May-2024 00:00	10-May-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2415878-001	ES2415878-002	ES2415878-003	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS101	SS102	SS103	----	----
				Sampling date / time	10-May-2024 00:00	10-May-2024 00:00	10-May-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2415878-001	ES2415878-002	ES2415878-003	--------	--------
					Result	Result	Result	----	----
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**77.0**	**83.2**	**77.0**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**96.3**	**102**	**106**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**85.2**	**92.7**	**102**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**78.0**	**85.5**	**85.4**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**76.4**	**84.5**	**85.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**59.4**	**71.9**	**63.9**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**78.2**	**80.2**	**81.5**	----	----
Anthracene-d10	1719-06-8	0.5	%		**78.4**	**84.9**	**85.7**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**85.0**	**90.5**	**94.8**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.8**	**82.0**	**85.1**	----	----
Toluene-D8	2037-26-5	0.2	%		**104**	**89.6**	**92.2**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**89.9**	**79.3**	**79.0**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	SS101 - 10-May-2024 00:00	Soil sample.
EA200: Description	SS102 - 10-May-2024 00:00	Soil sample.
EA200: Description	SS103 - 10-May-2024 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	63	125
Toluene-D8	2037-26-5	67	124
4-Bromofluorobenzene	460-00-4	66	131

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

Appendix C

Letter from Dr David Tully CEnvP SC

Contaminated Land Solutions

25 June 2024

Ref: CLS0324.L01

Regional Geotechnical Solutions Pty Ltd
44 Brent Street
Wingham
NSW 2429

For the attention of Andrew Hills

Dear Andrew,

RE: Report Review: Preliminary Site Investigation - Contamination Assessment – Proposed Caravan Park and Cabins – 3611 The Lakes Way, Charlotte Bay

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

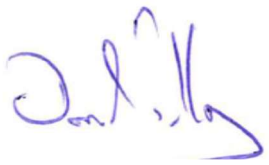
I confirm I have reviewed the Regional Geotechnical Solutions report entitled "*Preliminary Site Investigation - Contamination Assessment – Proposed Caravan Park and Cabins – 3611 The Lakes Way, Charlotte Bay*" (Ref: RGS03399.1-AB), dated 25 June 2024 and a copy of which I have retained.

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

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

For and on behalf of

Contaminated Land Solutions Pty Ltd



Dr David Tully CEnvP SC
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