

## **PHASE 1 SITE CONTAMINATION ASSESSMENT**

Rezoning of Lot 1 DP517111, Lennox Head  
NSW

Ballina Island Developments Pty Ltd

GEOTALST03192AC-AB  
30 May 2013

30 May 2013

Ballina Island Development Pty Ltd  
PO Box 3574,  
ROBINA, QLD 4230

**Attention: Mr Greg Wallace**

Dear Mr Wallace

**RE: Phase 1 Site Contamination Assessment for Rezoning of Lot 1 DP517111,  
Lennox Head NSW**

Coffey Geotechnics Pty Ltd (Coffey) is pleased to present our final report on the Phase 1 Site Contamination Assessment (SCA) with preliminary sampling prepared for the proposed rezoning to allow future residential development of land on, Lot 1 DP517111, Lennox Head NSW, the Site.

Coffey originally prepared this report in 2009 which then provided an assessment of Lot 1 DP517111 and Lot 2 DP620838. Please note that the revised report applies to Lot 1 only and testing and results for other areas external to Lot 1 are no longer relevant and are to be disregarded. Coffey was engaged to review and update the report for this site following a site walkover in March 2013.

I draw your attention to the attached sheets entitled "Important Information About Your Coffey Environmental Site Assessment" which should be read in conjunction with this report.

I trust that this report meets with your requirements. If you require further information please contact the undersigned in our Coffs Harbour office on (02) 6651 3213.

For and on behalf of Coffey Geotechnics Pty Ltd



**Andrew Ballard**  
Associate Environmental Scientist

Distribution:	Original held by:	Coffey Geotechnics Pty Ltd (Coffey)
	1 copy	Coffey (Coffs Harbour library)
	1 electronic copy	Ballina Island Development Pty Ltd

# CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>1 INTRODUCTION</b>	<b>2</b>
1.1 Phase 1 Site Contamination Assessment Objectives	2
<b>2 BACKGROUND INFORMATION</b>	<b>3</b>
2.1 Site Description	3
2.1.1 Lot 1 DP517111	3
2.2 Geology	3
2.3 Hydrology	4
<b>3 SITE HISTORY</b>	<b>5</b>
3.1 Historical Information	5
3.1.1 NSW WorkCover Dangerous Goods Records	5
3.1.2 Ballina Shire Council Records	5
3.1.3 NSW EPA Notices	5
3.1.4 Land Titles Search	5
3.1.5 Review Aerial Photography	6
<b>4 FIELD INVESTIGATIONS</b>	<b>6</b>
4.1 Soil Sampling	6
4.2 Soil Investigation Levels (SILs)	7
4.3 Quality Assurance/Quality Control	9
4.4 Comparison of Results to Soil Investigation Levels	9
<b>5 AREAS OF ENVIRONMENTAL CONCERN (AEC)</b>	<b>10</b>
<b>6 CONCLUSIONS AND RECOMMENDATIONS</b>	<b>10</b>
<b>7 REFERENCES</b>	<b>11</b>
<b>8 LIMITATIONS</b>	<b>11</b>

# CONTENTS

## Important Information About Your Coffey Environmental Site Assessment

### Figures

Figure 1: Site Locality Plan

Figure 2: Site Plan Showing Sampling Locations

### Tables

Table 1: Summary of Groundwater Bore Information

Table 2: Summary of Aerial Photographs

Table 3: Soil Investigation Levels (SILs) Adopted

Table 4: Results of Quality Control Samples

Table 5: Summary of Laboratory Results for Metals in Surface Soil Samples

Table 6: Summary of Laboratory Results for TRH, BTEX, PAH, OCP and OPP in Surface Soil Samples

### Appendices

Appendix A: Site History Information

Appendix B: Laboratory Reports

Appendix C: Data Validation Report

## **EXECUTIVE SUMMARY**

Coffey Geotechnics Pty Ltd (Coffey) was engaged by Ballina Islands Developments Pty Ltd to undertake a Phase 1 Site Contamination Assessment (SCA) at Lot 1 DP 517111, Lennox Head NSW.

The Phase 1 SCA provides a site contamination assessment that forms part of an initial assessment investigating the potential suitability of this land for its proposed rezoning to allow future residential development. The site is approximately 14.6 hectares in area and has frontage to Hendersons Lane in the south and North Creek Road in the east.

The objective of the Phase 1 SCA was to identify any past or present potentially contaminating activities, provide a preliminary assessment of site contamination and, if necessary, to provide a basis for more detailed Stage 2 investigation.

At the time of Coffey's site walkover in June 2008 and again in March 2013 the site was vacant land. Observed during our site walkover was a steel water tank, stock trough, empty steel drum, and abandoned farm machinery.

In brief, the site history prepared for this site in 2009 shows that Lot 1 DP 517111 has been owned by the Condon family since 1964. A review of the historical land titles suggests that this land has been owned by predominately farming families since being originally granted in 1919 (Lot 1).

A review of historical aerial photographs indicated that the large portion of the site on Lot 1 DP 517111 has been vacant cleared rural land from 1947 to present day.

Coffey's Phase 1 SCA included a preliminary assessment of levels of contaminants in soils on this site. Surface soil samples were collected from the site to screen for potential contaminants of concern. Samples were analysed by NATA accredited laboratories for metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury); total recoverable hydrocarbons (TRH); benzene toluene ethylbenzene and xylene compounds (BTEX); polycyclic aromatic hydrocarbons (PAH); organochlorine pesticides (OCP's); and organophosphorus pesticides (OPP's).

The results of the laboratory testing showed that concentrations of contaminants in all soil samples were either below the adopted soil investigation levels or below the laboratories' limits of reporting (LOR). The assessment of soil contamination undertaken by Coffey was appropriate for the preliminary screening purposes of this Phase 1 SCA.

In summary, The Phase 1 SCA identified no areas of environmental concern (AECs) on the site. Based on the findings of the Phase 1 SCA, and the results from the preliminary screening analysis of surface soils, Coffey's conclusion is that further detailed Phase 2 Site Contamination Assessment is not required for this site.

**THIS SUMMARY IS NOT TO BE SEPARATED FROM THE BODY OF COFFEY  
GEOTECHNICS REPORT GEOTALST03192AC-AB DATED 30 MAY 2013**

## 1 INTRODUCTION

The site of Coffey's original 2008 investigation consisted of two separate land parcels, the largest being Lot 1 DP517111, and the smaller parcel Lot 2 DP620838. The total site area is approximately 14.6 hectares and has frontage to Hendersons Lane in the south and North Creek Road in the east. Note that Lot 2 has since been removed from the project and is not considered further in this report.

This report was originally prepared in 2009, and has been revised and updated by Coffey following a site walkover in 2013.

The project brief indicates that the Phase 1 SCA investigation is to include a preliminary sampling with regard to human health and environmental impacts of soil contamination, if any, for assessment of the sites suitability for proposed rezoning to allow future residential use.

A geotechnical investigation of the site has been carried out concurrently with this Phase 1 SCA. The results of the geotechnical investigation are provided under a separate cover. Reference for the geotechnical report is GEOTALST03192AC-AC.

### 1.1 Phase 1 Site Contamination Assessment Objectives

The objectives of the Phase 1 SCA was to identify any past or present potentially contaminating activities, provide a preliminary assessment of any site contamination and, if necessary, to provide a basis for more detailed Stage 2 investigation.

Coffey Geotechnics scope of works completed for the Phase 1 SCA included:

- Comprehensive site history study of the property comprising:
  - A review of historical aerial photographs to determine any changes in landuse or activities on the site over time;
  - A titles search for past site owners;
  - A search of NSW Workcover dangerous goods records;
  - A search of NSW EPA notices and Department of Water Energy records;
  - Inspection of Ballina Shire Council records to determine previous approved development and site uses;
  - A site walkover of the property was undertaken to help confirm site history details and gain a better understanding of the past activities and to inspect areas of interest which may indicate potential contamination and to assist in identifying areas of environmental concern (AEC).
- Collection of preliminary soil samples using hand tools for screening purposes to provide an assessment of concentrations of contaminants of concern in soil. Investigations of the site included collecting a limited number of surface soil samples to a depth of 150mm.
- Soil samples were analysed by NATA accredited chemical laboratories for contaminants of concern including metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc), total recoverable hydrocarbons (TRH), benzene toluene ethylbenzene and xylene compounds (BTEX), polycyclic aromatic hydrocarbons (PAH), organochlorine and organophosphorus pesticides

(OCP/OCPs).

- The soil sample laboratory results were compared with the below listed guidelines and soil investigation levels adopted for this Phase 1 SCA. Any results which exceed the nominated investigation criteria for residential use have been highlighted and discussed in section 4.4 of this report.

The work carried out was guided by the following guidelines:

- Ballina Shire Council Management of Contaminated Land Policy, 2008;
- DUAP EPA Managing Land Contamination Planning Guidelines, SEPP 55 – Remediation of Land, 1998;
- NEPM Guideline on Investigation levels for Soil & Groundwater, 1999;
- NSW DEC Guidelines for the NSW Site Auditor Scheme (2nd ed), 2006;
- NSW EPA Guidelines for Consultants Reporting on Contaminated Sites, 2011;
- NSW EPA Sampling Design Guidelines, 1995; and
- NSW EPA Guidelines for Assessing Service Station Sites, 1994.

## **2 BACKGROUND INFORMATION**

### **2.1 Site Description**

The site is located on Lot 1 DP517111, Lennox Head NSW. A site locality plan (Figure 1) and site sampling plan (Figure 2) are attached.

The site is bounded by Hendersons Lane to the south and North Creek Road to the east. Residential allotments border the site to the west and the Lennox Head Reservoir is located to the east of the site.

A site walkover of both Lot 1 was undertaken by a Coffey Environmental Scientist on 25 June 2008, and again on 29 March 2013 and their observations are reported below.

#### **2.1.1 Lot 1 DP517111**

Lot 1 DP517111 is the largest parcel of land in the south of the site. There were no existing buildings or structures located on the lot. In the north east section of the lot there appeared to be remnants of an abandoned and overgrown farm structure. Observed in the central southern section of the lot was a water tank, empty steel drum, decommissioned slasher and rotary hoe and a stock water trough.

Vegetation consisted of medium length grass cover over the majority of the lot with low lying marsh land in the north west of the lot. Dense clusters of trees were located in the centre and south east sections of the lot. No signs of soil staining or odours were observed during the site walkover or fieldwork.

### **2.2 Geology**

Regionally the site is situated within moderately to steeply sloping topography. Locally, the site is situated on the western slopes of the ridgeline that connects Lennox Head headland to Condons Hill. Moderate to steep surface slopes were encountered in the south east and in a gully located on the

southern boundary of the site. The western portion of the site was relatively level low lying marsh land at the toe of the hill.

Based on the geological map for the area (1:250 000 Tweed Heads Sheet) the site is assessed to be underlain largely by weathered materials derived from the Lismore Basalts of the Mount Warning Volcanic complex. The lower-lying portions of the site are likely to include sediments derived from weathering of the basalt soils and possibly alluvial deposits of sand and peat.

## 2.3 Hydrology

Based on the topography of the site and surrounding area, it appears that surface water would drain through overland flow to the low lying marsh land in the west north west of the site. Standing surface water was observed during site walkover in the marsh area in the low lying western section of the site. Two small farm dams were also observed to be located in the south and centre of the site.

A search of the NSW Department of Water and Energy groundwater bore information indicated that there are seven bores within a 500m radius of the site. The information on each of these bores is summarised in Table 1 below.

**Table 1: Summary of Groundwater Bore Information**

<b>Bore Number</b>	<b>Authorised Use</b>	<b>Total Depth of Bore (m)</b>	<b>Distance*, Direction &amp; Gradient* from Site</b>	<b>Standing Water Level (m)</b>	<b>Water Bearing Zones (m)</b>
GW305830	Monitoring Bore	11.0	330m, W, DG	3.30	3.30 – 5.50
GW303540	Domestic	5.60	210m, NNE, DG	1.90	ND
GW303574	Domestic	-	240m, NE, DG	-	ND
GW303566	Domestic	6.0	240m, NE, DG	-	ND
GW305574	Domestic	6.0	254m, NE, DG	2.50	ND
GW305518	Domestic	4.0	300m, NNE, DG	-	ND
GW043032	Stock	2.40	300m, SW, DG	-	1.8 – 2.40

Notes: N = north, S = south, W = west, E = east, DG = down-gradient, ND = No Details. Distances are approximate and gradients are inferred.



### 3 SITE HISTORY

#### 3.1 Historical Information

##### 3.1.1 NSW WorkCover Dangerous Goods Records

WorkCover Dangerous Goods Licensing Records were searched. No records pertaining to the site were available for review.

##### 3.1.2 Ballina Shire Council Records

Records held by the Ballina Shire Council were viewed on 28 July 2008.

No records pertaining to the past use of the site were available for review.

##### 3.1.3 NSW EPA Notices

A review of the NSW EPA website database on 8 August 2008 revealed that no notices have been issued to the site or adjacent properties under the *Environmentally Hazardous Chemicals Act (1985)* and the *Contaminated Land Management Act (1997)*.

##### 3.1.4 Land Titles Search

A title search was carried out by Advance Legal Search in June 2008 for Lot 1 DP 517111, Lennox Head NSW.

Lot 1 DP 517111

- The title search stated that The Condon family acquired the land in 1964.
- Prior to 1970 the lot was part of Portion 35 and Part Portion 21 & 88 Parish Ballina.
- Prior to the Condons family owning Portion 35 and Part Portions 21 & 88 Parish Ballina, it was owned by Hanna Rutherford noted as being 'wife of auctioneer', and then 'widow'. Hanna Rutherford owned the lot from 1942 to 1964.
- Prior to 1942 the portions were owned by Frederick John Savins, farmer (1942 to 1940); Cecil Stoker, cane cutter (1940 to 1938); William Forester, farmer (1938 to 1925); Thomas Charles Piethers, farmer (1925 to 1921); Alfred Cook, farmer (1921 to 1919); William Kennedy, grantee (1919 to 1902).

The land titles documents are presented in Appendix A.

### 3.1.5 Review Aerial Photography

A review of aerial photographs of the site dating from 1947 to 2004 was carried out. A summary of the site in each photograph from 1947 onwards is provided in Table 2 below and copies of each of the photographs are provided in Appendix A.

**Table 2: Summary of Aerial Photographs**

Date	Description
1947	Photograph is in black and white. The site is cleared with scattered trees. The surrounding land is generally undeveloped and appears to be used for rural purposes with scattered dwellings surrounding the site.
1958	Photograph is in black and white. No significant changes from the 1947 aerial photograph.
1967	Photograph is in black and white. A small cluster of trees is present in the centre of the site. The reservoir water tank is present within a small portion of Lot 1 DP 517111 in the east, which appears to have been subdivided.
1979	Photograph is in black and white. No significant changes from the 1967 aerial photograph. The trees in the centre of the site appear to have become denser in cover. The surrounding developments include increase in residential allotments to the south and south east of the site.
1987	Photograph is in black and white. No significant changes from the 1979 aerial photograph. The surrounding developments include large increase in residential allotments to the south east and north east.
1997	Photograph is in colour. No significant changes from the 1987 aerial photograph. The surrounding developments include large increase in residential allotments to the south east and north west. The adjoining property to the west appears to have been cleared and earth works underway for residential subdivision. A large roundabout has been constructed to the north east of the site.
2004	Photograph is in colour. No significant changes from the 1987 aerial photograph. An access road appears to have been constructed on the northern side of the reservoir to the east of the site. The surrounding developments include the construction of residential dwellings on the adjoining land to the west of Lot 1.

## 4 FIELD INVESTIGATIONS

### 4.1 Soil Sampling

Fieldwork was carried out on the 25 June 2008 by a Coffey Geotechnics Environmental Scientist.

Thirty four (34) surface soil samples were collected in a grid framework across the site. Two additional samples were collected from nearby to an abandoned farm structure (sample SS001) and from nearby

to an empty steel drum (sample SS002) identified during the site walkover. The approximate soil sampling locations are shown on Figure 2.

Each sample was placed in a clean 250ml glass jar supplied by the laboratory. A new pair of disposable nitrile gloves was used to collect each sample. The geo pick was decontaminated between each sample location by brush scrubbing with potable water, then with phosphate free detergent (Decon 90™) and was finally rinsed with potable water.

Samples were stored in a chilled insulated container during fieldwork and transport to the laboratory. Duplicate samples were collected at a rate of one per ten samples and triplicate samples were collected at a rate of one per twenty samples.

## 4.2 Soil Investigation Levels (SILs)

In order to assess the potential for contamination in soils on the site, the results of laboratory soil analyses were compared with guidelines in the following references:

- NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme (2<sup>nd</sup> edition);
- NSW EPA (1994) Guidelines for Assessing Service Station Sites.

**Table 3: Soil Investigation Levels (SILs) adopted, (mg/kg)**

Contaminants of Concern	NSW DEC 06 Residential NEHF- A	NSW EPA 1994	SIL Adopted
<b>Heavy Metals</b>			
Arsenic	100	-	100
Cadmium	20	-	20
Chromium (Total)	120,000	-	120,000
Copper	1000	-	1000
Lead	300	300	300
Mercury	15	-	15
Nickel	600	-	600
Zinc	7000	-	7000
<b>Polycyclic Aromatic Hydrocarbons</b>			
PAH	20	20	20
Benzo (a) pyrene	1	1	1
<b>Monocyclic Aromatic Hydrocarbons</b>			
Benzene	-	1	1
Toluene	-	1.4	1.4

Contaminants of Concern	NSW DEC 06 Residential NEHF- A	NSW EPA 1994	SIL Adopted
Ethyl Benzene	-	3.1	3.1
Xylenes Total	-	14	14
<b>Total Recoverable Hydrocarbons</b>			
C <sub>6</sub> – C <sub>9</sub>	-	65	65
C <sub>10</sub> – C <sub>24</sub>	-	-	-
C <sub>15</sub> – C <sub>36</sub>	-	-	-
C <sub>29</sub> – C <sub>36</sub>	-	-	-
C <sub>10</sub> – C <sub>36</sub> (Total)	-	1000	1000
<b>Organochlorine and Organophosphorus Pesticides</b>			
Aldrin + dieldrin	10	-	10
Chlordane	50	-	50
DDT + DDD + DDE	200	-	200
Heptachlor	10	-	10

The NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme summarises the National Environmental Health Forum (NEHF) investigation levels<sup>1</sup> for protection of human health for different land uses.

In adopting these guidelines as soil investigation levels (SIL) it is understood that the site is proposed for residential development. The guideline criteria for residential land uses with gardens and accessible soil (home-grown produce contributing <10% fruit and vegetable intake; no poultry), including children's day-care centres, preschools, primary schools, townhouses, villas are considered to most closely match the proposed future residential use of this site.

The NSW EPA (1994) guidelines provide acceptable cleanup levels at service station sites that are to be redeveloped for a sensitive land uses such as residential. The NSW EPA also recommends the use of these guidelines for assessing hydrocarbon contaminants. These criteria are adopted as SIL for this investigation.

---

<sup>1</sup> In Imray and Langley (1994). Health Based Soil Investigation Levels. (IN: The Health Risk Assessment and Management of Contaminated Sites – Proceedings of the Third National Workshop on the Health Risk Assessment and Management of Contaminated Sites. Contaminated Sites Monograph Series No.5, 1996. South Australian Department of Health and Family Services/Commonwealth

### 4.3 Quality Assurance/Quality Control

Samples were transported under chain of custody conditions and in chilled insulated containers to mgt Environmental Consulting Pty Ltd (mgt) and LabMark Pty Ltd laboratories which are NATA accredited for the analysis performed.

The laboratory conducted internal quality control using laboratory duplicates, spikes and method blanks. The results are shown with laboratory report sheets in Appendix B and a Data Validation Report is presented in Appendix C. Analytical methods used for the laboratory testing are also indicated on the laboratory report sheets. The results of laboratory quality control testing are considered to be within acceptable limits.

For QA/QC purposes 4 duplicate (intra-laboratory) and 2 triplicate (inter-laboratory) soil samples were tested. These QA/QC samples collected during field work were analysed for metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury).

The comparison of the test results for the primary and field duplicate samples and primary and field triplicate samples showed RPDs above the control limit of 50% for duplicate pair SS33 / QC4 which recorded RPDs of lead 57% and pair SS34 / QC6 recorded RPDs of copper 67%. For the two triplicate samples analysed showed RPDs above the control limit for triplicate pair SS19 / QC3 for chromium 51% and nickel 74%. For triplicate pair SS33 / QC5 for chromium 67%, copper 53% and nickel 70%.

These results are considered to be due to the variable low level concentrations of metals in the surface material analysed, and the heterogeneous nature of the soil. It has not affected the useability of the data given the low concentrations of metals recorded.

Inconsistent results were found between duplicate pair SS33 / QC4 for arsenic; duplicate pair SS34 / QC6 for arsenic and lead; triplicate pair SS33 / QC5 for arsenic and mercury; triplicate pair SS19 / QC3 for arsenic, copper, lead and mercury. These inconsistent results were attributed to the contaminants been only slightly above the laboratories level of reporting (LOR) and the different LOR used by the two laboratories.

All other RPDs for soil samples were within the control limit of 50%. One wash blank sample, one trip spike and trip blank samples were also analysed. The results of these analyses were also within acceptable limits.

Based on the above assessment it is considered that the field and laboratory methods are appropriate and that the data obtained is usable and considered to reasonably represent the concentrations at the sampling points at the time of sampling.

### 4.4 Comparison of Results to Soil Investigation Levels

The purpose of collecting these samples was to provide a preliminary screening assessment of the concentrations of potential contaminants in soils on the site proposed to be rezoned for residential purposes.

The laboratory test results for soil samples analysed for the current investigation are summarised in Table 5 and Table 6. Comparison of soil concentrations to the SILs discussed in Section 4.2 is as follows:

- Concentrations of metals were recorded below the adopted SIL's or the laboratories LOR in each sample tested;

- Concentrations of TRH C<sub>6</sub>-C<sub>9</sub> and TRH C<sub>10</sub>-C<sub>36</sub> were recorded below the adopted SIL's or the laboratories limits of reporting (LOR) in each sample tested; and
- Concentrations of PAH, BTEX, OCPs and OPPs were recorded below the adopted SIL's or the laboratories LOR in each sample tested.

## **5 AREAS OF ENVIRONMENTAL CONCERN (AEC)**

Based on the findings of the site history, site observations and the reported results from the preliminary screening assessment of soils no Areas of Environmental Concern (AECs) were identified on this site.

## **6 CONCLUSIONS AND RECOMMENDATIONS**

The Phase 1 SCA findings show that Lot 1 DP 517111 have been owned by the Condon family since 1964. Based on information provided by the historical titles search, it shows that prior to 1964 this land has been owned by predominately farming families since being originally granted in 1919 (Lot 1 DP 517111).

A review of historical aerial photographs indicated that the large portion of the site Lot 1 DP 517111 has been vacant cleared rural land from 1947 to present day.

A preliminary screening of surface soils was undertaken to support the findings of the Phase 1 SCA. The laboratory test results show that the concentrations of potential contaminants of concern in soils on this site are below the adopted SIL's for residential use or were below the laboratories limits of reporting.

The Phase 1 SCA identified no areas of environmental concern (AECs) on this site. Based on the findings of the Phase 1 SCA, and the preliminary sampling and analysis of the soils, it is considered that the site has a low potential for contamination.

It is concluded that further Phase 2 Site Contamination Assessment is not required for this site

## 7 REFERENCES

Ballina Shire Council Management of Contaminated Land Policy, 2008

DUAP EPA Managing Land Contamination Planning Guidelines, SEPP 55 – Remediation of Land, 1998

NEPM Guideline on Investigation levels for Soil & Groundwater, 1999

NSW DEC Guidelines for the NSW Site Auditor Scheme (2nd ed), 2006

NSW EPA Guidelines for Consultants Reporting on Contaminated Sites, 2011

NSW EPA Sampling Design Guidelines, 1995

NSW EPA Guidelines for Assessing Service Station Sites, 1994

## 8 LIMITATIONS

The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the past and present uses of the site. Under no circumstances, however, can it be considered that these findings represent the actual state of the site at all points.

This report does not address issues relating to potentially hazardous building materials or services which may be present on the site. This report does not address geotechnical issues at the site.

This report is to be read in conjunction with enclosed information sheet “Important Information About Your Coffey Environmental Site Assessment”.

For and on behalf of Coffey Geotechnics Pty Ltd



**Andrew Ballard**

Associate Environmental Scientist

## Important information about your **Coffey** Environmental Site Assessment

Uncertainties as to what lies below the ground on potentially contaminated sites can lead to remediation costs blow outs, reduction in the value of the land and to delays in the redevelopment of land. These uncertainties are an inherent part of dealing with land contamination. The following notes have been prepared by Coffey to help you interpret and understand the limitations of your environmental site assessment report.

### **Your report has been written for a specific purpose**

---

Your report has been developed on the basis of a specific purpose as understood by Coffey and applies only to the site or area investigated. For example, the purpose of your report may be:

- To assess the environmental effects of an on-going operation.
- To provide due diligence on behalf of a property vendor.
- To provide due diligence on behalf of a property purchaser.
- To provide information related to redevelopment of the site due to a proposed change in use, for example, industrial use to a residential use.
- To assess the existing baseline environmental, and sometimes geological and hydrological conditions or constraints of a site prior to an activity which may alter the sites environmental, geological or hydrological condition.

For each purpose, a specific approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible, quantify risks that both recognised and unrecognised contamination pose to the proposed activity. Such risks may be both financial (for example, clean up costs or limitations to the site use) and physical (for example, potential health risks to users of the site or the general public).

### **Subsurface conditions can change**

---

Subsurface conditions are created by natural processes and the activity of man and may change with time. For example, groundwater levels can vary with time, fill may be placed on a site and pollutants may migrate with time. Because a report is based on conditions which existed at the time of the subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. Consult Coffey to be advised how time may have impacted on the project and/or on the property.

### **Interpretation of factual data**

---

Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Data derived from indirect field measurements and sometimes other reports on the site are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions. Actual conditions may differ from those inferred to exist, because no professional, no matter how well qualified, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of Coffey through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other problems encountered on site.

### **Your report will only give preliminary recommendations**

---

Your report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until project implementation has commenced and therefore your report recommendations can only be regarded as preliminary. Only Coffey, who prepared the report, is fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered with redevelopment or on-going use of the site. If another party undertakes the implementation of the recommendations of this report there is a risk that the report will be misinterpreted and Coffey cannot be held responsible for such misinterpretation.



## Important information about your **Coffey** Environmental Site Assessment

### **Your report is prepared for specific purposes and persons**

---

To avoid misuse of the information contained in your report it is recommended that you confer with Coffey before passing your report on to another party who may not be familiar with the background and the purpose of the report. In particular, a due diligence report for a property vendor may not be suitable for satisfying the needs of a purchaser. Your report should not be applied for any purpose other than that originally specified at the time the report was issued.

### **Interpretation by other professionals**

---

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, retain Coffey to work with other professionals who are affected by the report. Have Coffey explain the report implications to professionals affected by them and then review plans and specifications produced to see how they have incorporated the report findings.

### **Data should not be separated from the report**

---

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists, engineers or geologists based on their interpretation of field logs (assembled by field personnel), field testing and laboratory evaluation of field samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

### **Contact Coffey for additional assistance**

---

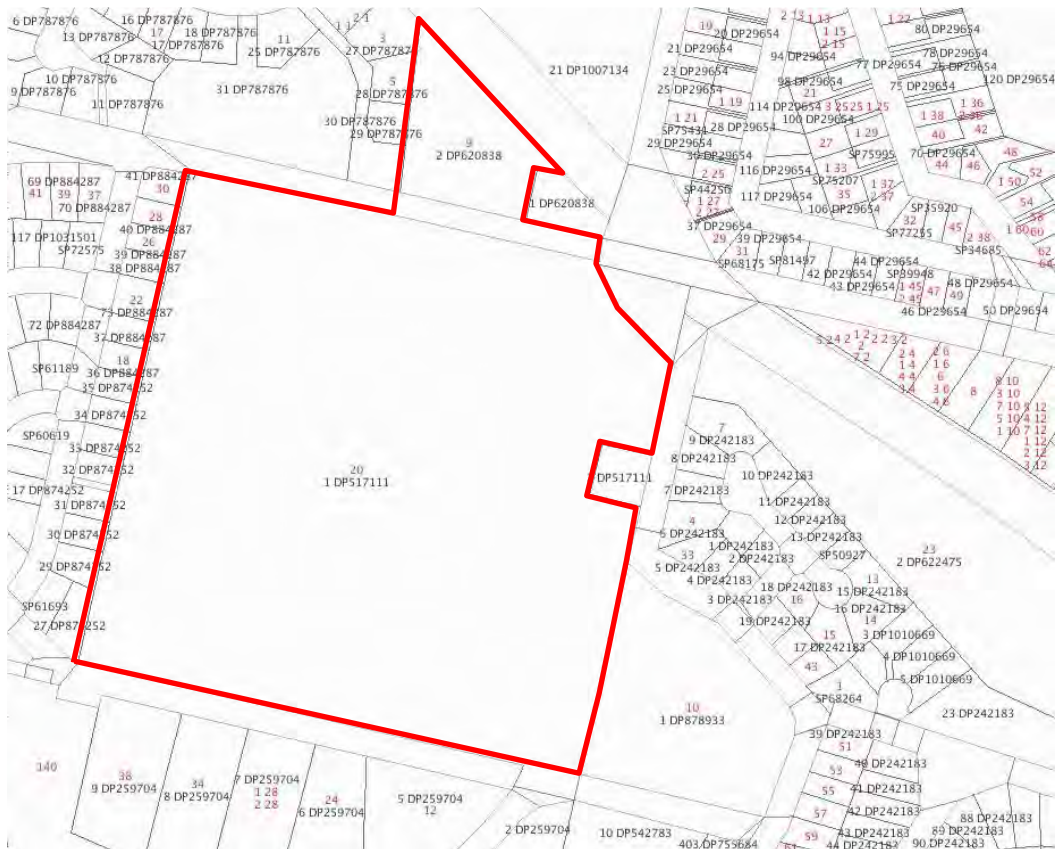
Coffey is familiar with a variety of techniques and approaches that can be used to help reduce risks for all parties to land development and land use. It is common that not all approaches will be necessarily dealt with in your environmental site assessment report due to concepts proposed at that time. As a project progresses through planning and design toward construction and/or maintenance, speak with Coffey to develop alternative approaches to problems that may be of genuine benefit both in time and cost.

### **Responsibility**

---

Environmental reporting relies on interpretation of factual information based on judgement and opinion and has a level of uncertainty attached to it, which is far less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. To help prevent this problem, a number of clauses have been developed for use in contracts, reports and other documents. Responsibility clauses do not transfer appropriate liabilities from Coffey to other parties but are included to identify where Coffey's responsibilities begin and end. Their use is intended to help all parties involved to recognise their individual responsibilities. Read all documents from Coffey closely and do not hesitate to ask any questions you may have.

## Figures



drawn:	JP	 SPECIALISTS MANAGING THE EARTH	client:	Ballina Island Development Pty Ltd	
approved:			project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
date:	30/05/2013		title:	Site Locality Plan	
scale:	Not to Scale		project no.:	GEOTALST03192AC-AB	drawing no: Figure 1
original size:	A4				





# Key



= Swamp/wetland



= trees and bushes



= Latitude & longitude



= Sample location

drawn	JP
approved	<i>Andrew Johnson</i>
date	30/05/2013
scale	NTS
original size	A3



client:	Ballina Island Development Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Site Plan Showing Sampling Locations	
project no: GEOTCOFH03192AC-AB	figure no: 2	

## Tables

**Table 4: Results of Quality Control Soil Samples**

	Primary Sample	Duplicate Sample	RPD (%)	Primary Sample	Duplicate Sample	RPD (%)	Primary Sample	Triplicate Sample	RPD (%)
<b>Sample ID</b>	SS09	QC1	%RPD between SS09 and QC1	SS19	QC2	%RPD between SS19 and QC2	SS19	QC3	%RPD between SS19 and QC3
<b>Material</b>	Soil	Soil		Soil	Soil		Soil	Soil	
<b>Date of Sampling</b>	25-Jun-08	25-Jun-08		25-Jun-08	25-Jun-08		25-Jun-08	25-Jun-08	
<b>Depth (m)</b>	0.15	0.15		0.15	0.15		0.15	0.15	
<b>Heavy Metals</b>									
Arsenic	< 2	< 2	NA	< 2	< 2	NA	< 2	1	Inconsistent
Cadmium	< 0.5	< 0.5	NA	< 0.5	< 0.5	NA	< 0.5	< 0.1	NA
Chromium	68	62	9.23	8.9	8.3	6.98	8.9	15	51.05
Copper	8.2	8.3	1.21	< 5	< 5	NA	< 5	12	Inconsistent
Lead	< 5	< 5	NA	< 5	< 5	NA	< 5	5	Inconsistent
Mercury	< 0.1	< 0.1	NA	< 0.1	< 0.1	NA	< 0.1	0.29	Inconsistent
Nickel	30	28	6.90	24	27	11.76	24	11	74.29
Zinc	72	65	10.22	47	51	8.16	47	45	4.35

	Primary Sample	Duplicate Sample	RPD (%)	Primary Sample	Triplicate Sample	RPD (%)	Primary Sample	Duplicate Sample	RPD (%)	WASH BLANK
<b>Sample ID</b>	SS33	QC4	%RPD between SS33 and QC4	SS33	QC5	%RPD between SS33 and QC5	SS34	QC6	%RPD between SS34 and QC6	WB1
<b>Material</b>	Soil	Soil		Soil	Soil		Soil	Soil		Water
<b>Date of Sampling</b>	25-Jun-08	25-Jun-08		25-Jun-08	25-Jun-08		25-Jun-08	25-Jun-08		25-Jun-08
<b>Depth (m)</b>	0.15	0.15		0.15	0.15		0.15	0.15		
<b>Heavy Metals</b>										
Arsenic	2	< 2	Inconsistent	2	<1	Inconsistent	2.5	< 2	Inconsistent	< 0.001
Cadmium	< 0.5	< 0.5	NA	< 0.5	<0.1	NA	< 0.5	< 0.5	NA	< 0.0002
Chromium	14	11	24.00	14	7	66.67	78	63	21.28	< 0.001
Copper	19	14	30.30	19	11	53.33	22	11	66.67	< 0.001
Lead	7.2	13	57.43	7.2	10	32.56	< 5	11	Inconsistent	< 0.001
Mercury	< 0.1	< 0.1	NA	< 0.1	0.07	Inconsistent	< 0.1	< 0.1	NA	< 0.0001
Nickel	8.3	7.4	11.46	8.3	4	69.92	31	34	9.23	< 0.001
Zinc	57	54	5.41	57	35	47.83	130	120	8.00	< 0.001

Notes:

**Value** RPD exceeds control limit of 50%

NA Both samples have concentrations below laboratory's Limit of Reporting (LOR)

Inconsistent One sample has concentration below LOR, the second sample has concentrations above LOR

**Table 5: Summary of Laboratory Results for Metals in Surface Soil Samples (all results in mg/kg)**

Sample ID	THRESHOLD	SS01	SS02	SS03	SS04	SS001	SS06
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15
<b>Heavy Metals</b>							
Arsenic	100 <sup>1</sup>	< 2	< 2	< 2	< 2	< 2	< 2
Cadmium	20 <sup>1</sup>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	54	33	47	46	48	40
Copper	1000 <sup>1</sup>	15	11	< 5	13	9.2	11
Lead	300 <sup>1</sup>	19	8.5	9.7	5	15	6.7
Mercury	15 <sup>1</sup>	< 0.1	0.1	0.1	0.1	< 0.1	< 0.1
Nickel	600 <sup>1</sup>	39	16	20	37	30	33
Zinc	7000 <sup>1</sup>	170	48	50	100	110	90

Sample ID	THRESHOLD	SS08	SS09	SS10	SS11	SS12	SS13
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15
<b>Heavy Metals</b>							
Arsenic	100 <sup>1</sup>	< 2	< 2	< 2	< 2	< 2	< 2
Cadmium	20 <sup>1</sup>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	50	68	25	20	35	73
Copper	1000 <sup>1</sup>	11	8.2	13	11	< 5	7.7
Lead	300 <sup>1</sup>	< 5	< 5	< 5	6.1	< 5	< 5
Mercury	15 <sup>1</sup>	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	600 <sup>1</sup>	31	30	29	25	29	31
Zinc	7000 <sup>1</sup>	98	72	100	85	150	98

Sample ID	THRESHOLD	SS14	SS15	SS16	SS18	SS19	SS21
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15
<b>Heavy Metals</b>							
Arsenic	100 <sup>1</sup>	< 2	< 2	< 2	< 2	< 2	< 2
Cadmium	20 <sup>1</sup>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	36	21	29	22	8.9	58
Copper	1000 <sup>1</sup>	8.2	8.1	8	5.9	< 5	10
Lead	300 <sup>1</sup>	< 5	< 5	< 5	< 5	< 5	< 5
Mercury	15 <sup>1</sup>	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	600 <sup>1</sup>	36	29	29	23	24	34
Zinc	7000 <sup>1</sup>	79	79	98	49	47	120

**NOTES:**

**Bold**

Concentration exceeds the Soil Investigation Levels (SILs) Criteria

<sup>1</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) and NEPM (1999) (Residential - NEHF A)

**Table 5 Cont: Summary of Laboratory Results for Metals in Surface Soil Samples (all results in mg/kg)**

Sample ID	THRESHOLD	SS22	SS002	SS25	SS26	SS27	SS28
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15
<b>Heavy Metals</b>							
Arsenic	100 <sup>1</sup>	2.1	3.1	2.7	2.2	3	2.5
Cadmium	20 <sup>1</sup>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	44	28	64	76	24	43
Copper	1000 <sup>1</sup>	15	15	20	16	18	16
Lead	300 <sup>1</sup>	< 5	< 5	< 5	< 5	< 5	< 5
Mercury	15 <sup>1</sup>	< 0.1	< 0.1	< 0.1	0.1	0.1	< 0.1
Nickel	600 <sup>1</sup>	30	24	36	29	24	33
Zinc	7000 <sup>1</sup>	57	88	75	61	95	46

Sample ID	THRESHOLD	SS33	SS34	SS35	SS37	SS38	SS39
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15
<b>Heavy Metals</b>							
Arsenic	100 <sup>1</sup>	2	2.5	2.5	4.3	2.5	2.4
Cadmium	20 <sup>1</sup>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	14	78	160	99	83	76
Copper	1000 <sup>1</sup>	19	22	31	27	15	28
Lead	300 <sup>1</sup>	7.2	< 5	< 5	9.4	< 5	8
Mercury	15 <sup>1</sup>	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	600 <sup>1</sup>	8.3	31	36	34	25	30
Zinc	7000 <sup>1</sup>	57	130	110	190	63	140

Sample ID	THRESHOLD	SS40
Material	CONCENTRATION	Soil
Date of Sampling	Adopted	25-Jun-08
Depth (m)	Investigation Levels	0.15
<b>Heavy Metals</b>		
Arsenic	100 <sup>1</sup>	< 2
Cadmium	20 <sup>1</sup>	< 0.5
Chromium (Total)	120,000 <sup>1</sup>	87
Copper	1000 <sup>1</sup>	10
Lead	300 <sup>1</sup>	< 5
Mercury	15 <sup>1</sup>	< 0.1
Nickel	600 <sup>1</sup>	18
Zinc	7000 <sup>1</sup>	37

**NOTES:**

<b>Bold</b>	Concentration exceeds the Soil Investigation Levels (SILs) Criteria
<sup>1</sup>	Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) and NEPM (1999) (Residential - NEHF A)



Table 6: Summary of Laboratory Results for TRH, BTEX, PAH, OCP and OPP in Surface Soil Samples (all results in mg/kg)

Sample ID	THRESHOLD	SS01	SS02	SS03	SS001	SS10	SS11	SS14	SS15	SS18	SS21	SS002	SS26	SS27	SS35	SS40
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
<b>Total Recoverable Hydrocarbons</b>																
C6 - C9 Fraction	65 <sup>2</sup>	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
C10 - C14 Fraction	-	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
C15 - C28 Fraction	-	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
C29 - C36 Fraction	-	< 100	< 100	< 100	< 100	< 100	120	-	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Total C10-C36	1000 <sup>2</sup>	< 250	< 250	< 250	< 250	< 250	< 270	-	< 260	< 250	< 250	< 250	< 250	< 250	< 250	< 250
<b>BTEX</b>																
Benzene	1 <sup>2</sup>	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	1.4 <sup>2</sup>	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	3.1 <sup>2</sup>	< 0.05	0.88	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes(ortho.meta and para)	14 <sup>2</sup>	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
<b>Polycyclic Aromatic Hydrocarbons</b>																
Acenaphthene	-	< 0.1	-	< 0.1	-	-	< 0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Acenaphthylene	-	< 0.1	-	< 0.1	-	-	< 0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Anthracene	-	< 0.1	-	< 0.1	-	-	< 0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Benz(a)anthracene	-	< 0.1	-	< 0.1	-	-	0.3	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Benzo(a)pyrene	1 <sup>2</sup>	< 0.1	-	< 0.1	-	-	0.3	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Benzo(b)fluoranthene	-	< 0.1	-	< 0.1	-	-	0.4	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Benzo(g,h,i)perylene	-	< 0.1	-	< 0.1	-	-	0.4	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Benzo(k)fluoranthene	-	< 0.1	-	< 0.1	-	-	0.2	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Chrysene	-	< 0.1	-	< 0.1	-	-	0.3	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Dibenz(a,h)anthracene	-	< 0.1	-	< 0.1	-	-	0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Fluoranthene	-	< 0.1	-	< 0.1	-	-	0.8	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Fluorene	-	< 0.1	-	< 0.1	-	-	< 0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Indeno(1.2.3-cd)pyrene	-	< 0.1	-	< 0.1	-	-	0.3	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Naphthalene	-	< 0.1	-	< 0.1	-	-	< 0.1	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Phenanthrene	-	< 0.1	-	< 0.1	-	-	0.2	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Pyrene	-	< 0.1	-	< 0.1	-	-	0.7	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
Total PAH	20 <sup>2</sup>	< 0.1	-	< 0.1	-	-	4	< 0.1	-	-	< 0.1	-	-	< 0.1	< 0.1	-
<b>Organochlorine Pesticides</b>																
4.4'-DDD	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
4.4'-DDE	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
4.4'-DDT	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
DDT + DDD + DDE	200 <sup>1</sup>	< 0.15	< 0.15	< 0.15	-	< 0.15	< 0.15	-	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	-
a-BHC	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Aldrin	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
b-BHC	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Chlordane	50 <sup>1</sup>	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
d-BHC	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Dieldrin	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Aldrin / Dieldrin	10 <sup>1</sup>	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Endosulfan I	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endosulfan II	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-

Table 6: Summary of Laboratory Results for TRH, BTEX, PAH, OCP and OPP in Surface Soil Samples (all results in mg/kg)

Sample ID	THRESHOLD	SS01	SS02	SS03	SS001	SS10	SS11	SS14	SS15	SS18	SS21	SS002	SS26	SS27	SS35	SS40
Material	CONCENTRATION	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling	Adopted	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08	25-Jun-08
Depth (m)	Investigation Levels	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
<b>Organochlorine Pesticides continued</b>																
Endrin	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Endrin ketone	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
g-BHC (Lindane)	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Heptachlor	10 <sup>1</sup>	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Methoxychlor	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Toxophene	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
<b>Organophosphorous Pesticides</b>																
Bolstar	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Coumaphos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Demeton-O	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Diazinon	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Dichlorvos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Disulfoton	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ethion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ethoprop	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fenitrothion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fensulfothion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fenthion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Merphos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Methyl azinphos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Methyl parathion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Mevinphos	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Naled	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Phorate	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Ronnel	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Tokuthion	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Trichloronate	-	< 0.2	< 0.2	< 0.2	-	< 0.2	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-

NOTES:

**Bold**

Concentration exceeds the Soil Investigation Levels (SILs) Criteria

<sup>1</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd ed) and NEPM (1999) (Residential - NEHF-A)<sup>2</sup> Based on NSW EPA (1994), Guidelines for Assessing Service Station Sites

- No guideline value adopted/sample not tested

# Appendix A

## **Site History Information**



Our Ref: D08/077386  
Your Ref: Sam Tate

20 August 2008

Attention: Mr Tate  
Coffey Geotechnics Coffs Harbour  
1/18 Hurley Dr  
Coffs Harbour NSW 2450

Dear Mr Tate

**RE SITE: Lot 1 DP517111 Lennox Head NSW 2478.**

I refer to your search request of 8<sup>th</sup> August 2008 requesting information on licences to Keep Dangerous Goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover has not located any records pertaining to the above-mentioned premises.

If you have any further queries, please contact Dangerous Goods Licensing staff on (02) 4321 5500.

A handwritten signature in black ink, appearing to read 'M. A. Jones'.

Brent Jones  
**Senior Licenceing Officer**  
**Dangerous Goods**

WorkCover. **Watching out for you.**

WorkCover NSW ABN 77 682 742 966 92-100 Donnison Street Gosford NSW 2250 Locked Bag 2906 Lisarow NSW 2252  
Telephone 02 4321 5000 Facsimile 02 4325 4145 WorkCover Assistance Service 13 10 50  
DX 731 Sydney Website [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)

WC03116 0208



Our Ref: D08/077386  
Your Ref: Sam Tate

20 August 2008

Attention: Mr Tate  
Coffey Geotechnics Coffs Harbour  
1/18 Hurley Dr  
Coffs Harbour NSW 2450

Dear Mr Tate

**RE SITE: Lot 2 DP620878 Lennox Head NSW 2478.**

I refer to your search request of 8<sup>th</sup> August 2008 requesting information on licences to Keep Dangerous Goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover has not located any records pertaining to the above-mentioned premises.

If you have any further queries, please contact Dangerous Goods Licensing staff on (02) 4321 5500.

A handwritten signature in black ink, appearing to read 'M. A. Jones'.

Brent Jones  
**Senior Licencing Officer**  
**Dangerous Goods**

WorkCover. **Watching out for you.**

WorkCover NSW ABN 77 682 742 966 92-100 Donnison Street Gosford NSW 2250 Locked Bag 2906 Lisarow NSW 2252  
Telephone 02 4321 5000 Facsimile 02 4325 4145 WorkCover Assistance Service 13 10 50  
DX 731 Sydney Website [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)

WC03116 0208



Print



Close page

## Search results

---

Your search for: LGA: Ballina Shire Council

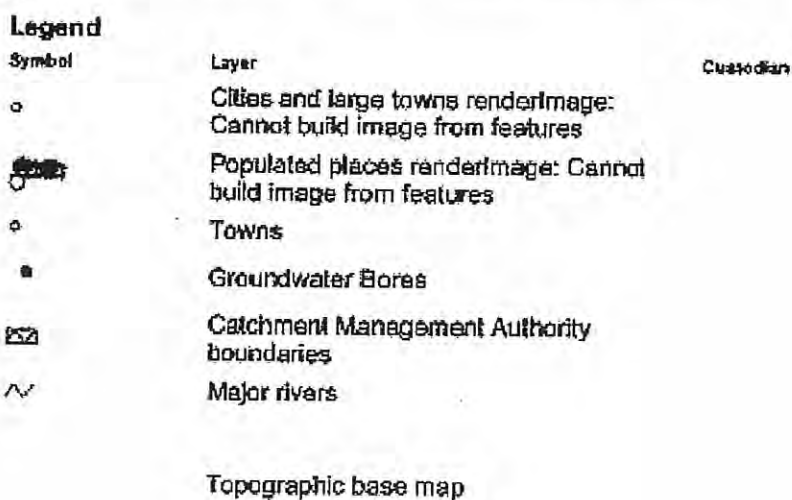
Matched 2 notices relating to 2 sites.

Suburb	Address	Site Name	Notices related to this site
Lennox Head	Fig Tree Hill Drive	Dip 5282 Spoors	1 current
McLeans Ridges	McLeans Ridges Road	Dip 5157 Ridges	1 former

Page 1 of 1

6 August 2008

Map created with NSW Groundwater Works - <http://nra100.nsw.gov.au>  
Friday, August 15, 2008



# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW305380

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW305380  
LIC-NUM 30BL183549  
AUTHORISED-PURPOSES MONITORING BORE  
INTENDED-PURPOSES MONITORING BORE  
WORK-TYPE Bore  
WORK-STATUS  
CONSTRUCTION-METHOD  
OWNER-TYPE  
COMMENCE-DATE  
COMPLETION-DATE 2004-11-05  
FINAL-DEPTH (metres) 11.00  
DRILLED-DEPTH (metres) 11.00  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY GRADWELL  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL 3.30  
SALINITY 186.00  
YIELD

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6813711.00  
EASTING 557047.00  
LATITUDE 28 48' 10"  
LONGITUDE 153 35' 4"  
GS-MAP



AMG-ZONE 56  
 COORD-SOURCE  
 REMARK

**Form-A (top)**

COUNTY ROUS  
 PARISH BALLINA  
 PORTION-LOT-DP 151 1076456

**Licensed (top)**

COUNTY ROUS  
 PARISH BALLINA  
 PORTION-LOT-DP 151 1076456

**Construction (top)**

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;  
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	11.00	100			Auger - Solid Flight
1	1	Casing	Steel - ERW	0.00	2.50	50	44		Screwed; Seated on Backfill
1	1	Opening	Slots	2.20	5.50	50			Steel - ERW

**Water Bearing Zones (top)**

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
3.30	5.50	2.20		3.30					186.00

**Drillers Log (top)**

FROM	TO	THICKNESS	DESC	GEO- MATERIAL	COMMENT
0.00	2.50	2.50	silt red-brown		
2.50	2.80	0.30	clayey silt, grey brown iwth light brown decomposed basalt, saprolitic		
2.80	11.00	8.20	silty clay, grey to light brown		

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for

use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A](#) [Licensed Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW303540

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW303540  
LIC-NUM 30BL181543  
AUTHORISED-PURPOSES DOMESTIC  
INTENDED-PURPOSES DOMESTIC  
WORK-TYPE Bore  
WORK-STATUS  
CONSTRUCTION-METHOD Hand Auger  
OWNER-TYPE  
COMMENCE-DATE  
COMPLETION-DATE 2002-07-27  
FINAL-DEPTH (metres) 5.60  
DRILLED-DEPTH (metres)  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY HAMMER'S  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL 1.90  
SALINITY  
YIELD 0.16

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6814129.00  
EASTING 557924.00  
LATITUDE 28 47' 57"  
LONGITUDE 153 35' 37"  
GS-MAP

AMG-ZONE 56  
COORD-SOURCE Map Interpretation  
REMARK

**Form-A (top)**

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP LT 12 DP 239776

**Licensed (top)**

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 12 239776

**Construction (top)**

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;  
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.60	90			Hand Auger
1	1	Casing	P.V.C.	0.00	5.60				

**Water Bearing Zones (top)**

no details

**Drillers Log (top)**

no details

---

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

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A Licensed Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW303574

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW303574  
LIC-NUM 30BL180792  
AUTHORISED-PURPOSES DOMESTIC  
INTENDED-PURPOSES  
WORK-TYPE Bore  
WORK-STATUS  
CONSTRUCTION-METHOD (Unknown)  
OWNER-TYPE  
COMMENCE-DATE  
COMPLETION-DATE 2003-03-31  
FINAL-DEPTH (metres)  
DRILLED-DEPTH (metres)  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY KING'S  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL  
SALINITY  
YIELD

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6814070.00  
EASTING 558012.00  
LATITUDE 28 47' 59"  
LONGITUDE 153 35' 40"  
GS-MAP

AMG-ZONE 56  
COORD-SOURCE Map Interpretation  
REMARK

**Form-A** [\(top\)](#)

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP LT 87 DP 29654

**Licensed** [\(top\)](#)

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 87 29654

☐ **Water Bearing Zones** [\(top\)](#)

no details

**Drillers Log** [\(top\)](#)

no details

---

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

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A Licensed Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW303566

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW303566  
LIC-NUM 30BL180722  
AUTHORISED-PURPOSES DOMESTIC  
INTENDED-PURPOSES DOMESTIC  
WORK-TYPE Bore  
WORK-STATUS  
CONSTRUCTION-METHOD (Unknown)  
OWNER-TYPE  
COMMENCE-DATE  
COMPLETION-DATE 1980-01-01  
FINAL-DEPTH (metres) 6.00  
DRILLED-DEPTH (metres)  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY PROUDFOOT'S  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL  
SALINITY  
YIELD

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6814061.00  
EASTING 558029.00  
LATITUDE 28 47' 59"  
LONGITUDE 153 35' 41"  
GS-MAP

AMG-ZONE 56  
COORD-SOURCE Map Interpretation  
REMARK

**Form-A (top)**

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP LT 85 DP 29654

**Licensed (top)**

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 85 29654

**Construction (top)**

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;  
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.00				

**Water Bearing Zones (top)**

no details

**Drillers Log (top)**

no details

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



# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW305574

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW305574  
LIC-NUM 30BL180924  
AUTHORISED-PURPOSES DOMESTIC  
INTENDED-PURPOSES DOMESTIC  
WORK-TYPE Spear  
WORK-STATUS New Bore  
CONSTRUCTION-METHOD  
OWNER-TYPE Private  
COMMENCE-DATE  
COMPLETION-DATE 2002-11-04  
FINAL-DEPTH (metres) 6.00  
DRILLED-DEPTH (metres)  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY WILSON'S  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL 2.50  
SALINITY  
YIELD 1.25

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6814066.00  
EASTING 558077.00  
LATITUDE 28 47' 59"  
LONGITUDE 153 35' 42"  
GS-MAP

AMG-ZONE 56  
COORD-SOURCE Map Interpretation  
REMARK

**Form-A** ([top](#))

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 86//29654

**Licensed** ([top](#))

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 86 29654

☐ **Water Bearing Zones** ([top](#))

no details

**Drillers Log** ([top](#))

no details

---

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

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW305518

### Works Details [\(top\)](#)

GROUNDWATER NUMBER GW305518  
LIC-NUM 30BL180914  
AUTHORISED-PURPOSES DOMESTIC  
INTENDED-PURPOSES DOMESTIC  
WORK-TYPE Spear  
WORK-STATUS New Bore  
CONSTRUCTION-METHOD  
OWNER-TYPE Private  
COMMENCE-DATE  
COMPLETION-DATE 2003-08-26  
FINAL-DEPTH (metres) 4.00  
DRILLED-DEPTH (metres)  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY SIMPSON'S  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL  
SALINITY  
YIELD

### Site Details [\(top\)](#)

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6814214.00  
EASTING 558019.00  
LATITUDE 28 47' 54"  
LONGITUDE 153 35' 40"  
GS-MAP

AMG-ZONE 56  
COORD-SOURCE Map Interpretation  
REMARK

**Form-A** ([top](#))

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 9//20330

**Licensed** ([top](#))

COUNTY ROUS  
PARISH BALLINA  
PORTION-LOT-DP 9 20330

☐ **Water Bearing Zones** ([top](#))

no details

**Drillers Log** ([top](#))

no details

---

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

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, June 12, 2008

[Print Report](#)

[Works Details](#) [Site Details](#) [Form A](#) [Licensed Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

## Work Requested -- GW043032

### Works Details ([top](#))

GROUNDWATER NUMBER GW043032  
LIC-NUM 30BL101703  
AUTHORISED-PURPOSES STOCK  
INTENDED-PURPOSES STOCK  
WORK-TYPE Well  
WORK-STATUS (Unknown)  
CONSTRUCTION-METHOD (Unknown)  
OWNER-TYPE Private  
COMMENCE-DATE  
COMPLETION-DATE  
FINAL-DEPTH (metres) 2.40  
DRILLED-DEPTH (metres) 2.40  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY N/A  
GWMA - LOWER MACQUARIE (D/S NARROMINE)  
GW-ZONE - LOWER MACQUARIE ZONE 1 GROUNDWATER SOURCE  
STANDING-WATER-LEVEL  
SALINITY  
YIELD

### Site Details ([top](#))

REGION 30 - NORTH COAST  
RIVER-BASIN 203 - RICHMOND RIVER  
AREA-DISTRICT  
CMA-MAP 9640-3N  
GRID-ZONE 56/2  
SCALE 1:25,000  
ELEVATION  
ELEVATION-SOURCE (Unknown)  
NORTHING 6813069.00  
EASTING 557269.00  
LATITUDE 28 48' 31"  
LONGITUDE 153 35' 13"  
GS-MAP 0005C4

AMG-ZONE 56  
 COORD-SOURCE GD.,ACC.MAP  
 REMARK

**Form-A (top)**

COUNTY ROUS  
 PARISH BALLINA  
 PORTION-LOT-DP 44

**Licensed (top)**

COUNTY ROUS  
 PARISH BALLINA  
 PORTION-LOT-DP 44

**Construction (top)**

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;  
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Nil	0.00	0.00	0			(Unknown)
1	1	Casing	Drilled	0.00	2.40	1829			(Unknown)

**Water Bearing Zones (top)**

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W-L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
1.80	2.40	0.60	Fractured	1.20					Potable

**Drillers Log (top)**

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	2.44	2.44	Basalt Broken	Water Supply	

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

# **ADVANCE LEGAL SEARCH PTY LIMITED**

(ACN 077 067 068)  
ABN 49 077 067 068

PO Box 149  
Yagoona NSW 2199

Telephone: +612 9754 1590  
Mobile: 0412 169 809  
Facsimile: +612 9754 1364  
Email: [alsearch@optusnet.com.au](mailto:alsearch@optusnet.com.au)

24 June 2008

**COFFEY GEOTECHNICS Pty Ltd**  
PO Box 704  
**COFFS HARBOUR NSW 2450**

**Attention: Sam Tate**

**RE:** **North Condon Hill**  
**Lennox Head**  
**GEOTALST03192AA**  
**Job No. ALST03192AA**

## **Current Search**

Folio Identifier 1/517111 (title attached)  
DP 517111 (plan unavailable)  
Dated 21 June 2008  
**CECILIA THERESA CONDON**





## Summary of Proprietor(s) Lot 2 DP 620838

**Year    Proprietor**

	<b>(Lot 2 DP 620838)</b>
1990 – todate	William Michael Condon
1988 – 1990	William Michael Condon Dellphene Agnes Condon
	<b>(Lot 2 DP 620838 – CTVol 14615 Fol 241)</b>
1983 – 1988	William Michael Condon Dellphene Agnes Condon
1981 – 1983	Samuel William Condon Cecilia Theresa Condon
	<b>(Lot 14 DP 588291 – CTVol 13286 Fol 131)</b>
1977 – 1981	Samuel William Condon Cecilia Theresa Condon
	<b>(Lot 13 DP 581159 – CTVol 13016 Fol 164)</b>
1976 – 1977	Samuel William Condon Cecilia Theresa Condon
	<b>(Lot 12 DP 239013 – CTVol 11333 Fol 88)</b>
1970 – 1976	Samuel William Condon Cecilia Theresa Condon
	<b>(Portion 35 and Part Portions 21 &amp; 88 Parish Ballina – Area 94 Acres 3 Roods 34 ½ Perches – CTVol 7630 Fol 141)</b>
1964 – 1970	Samuel William Condon Cecilia Theresa Condon
1959 – 1964	Hanna Rutherford, widow
	<b>(Part Portions 21 &amp; 88 Parish Ballina – Area 91 Acres 0 Roods 3 ½ Perches – CTVol 5812 Fol 129)</b>
1948 – 1959	Hanna Rutherford, wife of auctioneer
	<b>(Part Portion 21 Parish Ballina – Area 59 Acres 2 Roods 31 ½ Perches – CTVol 3765 Fol 75)</b>
1942 – 1948	Hanna Rutherford, wife of auctioneer
1940 – 1942	Frederick John Savins, farmer
1938 – 1940	Cecil Stoker, cane cutter
1925 – 1938	William Forster, farmer
	<b>(Portion 21 Parish Ballina – Area 59 Acres 3 Roods 34 Perches – CTVol 3424 Fol 18)</b>
1923 – 1925	William Forster, farmer

	<b>(Portion 21 Parish Ballina – Area 60 Acres - CTVol 3221 Fol 129)</b>
1921 – 1923	William Forster, farmer
1921 – 1921	Alfred Cook, farmer
	<b>(Portion 21 Parish Ballina – Area 60 Acres - CTVol 3221 Fol 129)</b>
1919 – 1921	Alfred Cook, farmer
1888 – 1919	William Kennedy, constable
1884 – 1888	Reginald Thomas Stephen Peacocke Frederick Lewis Stacey
1880 – 1884	James Ainsworth, grantee

\*\*\*\*

**Cadastral Records Enquiry Report**

Ref : Box 97 - Lennox Head

Requested Parcel : Lot 1 DP 517111

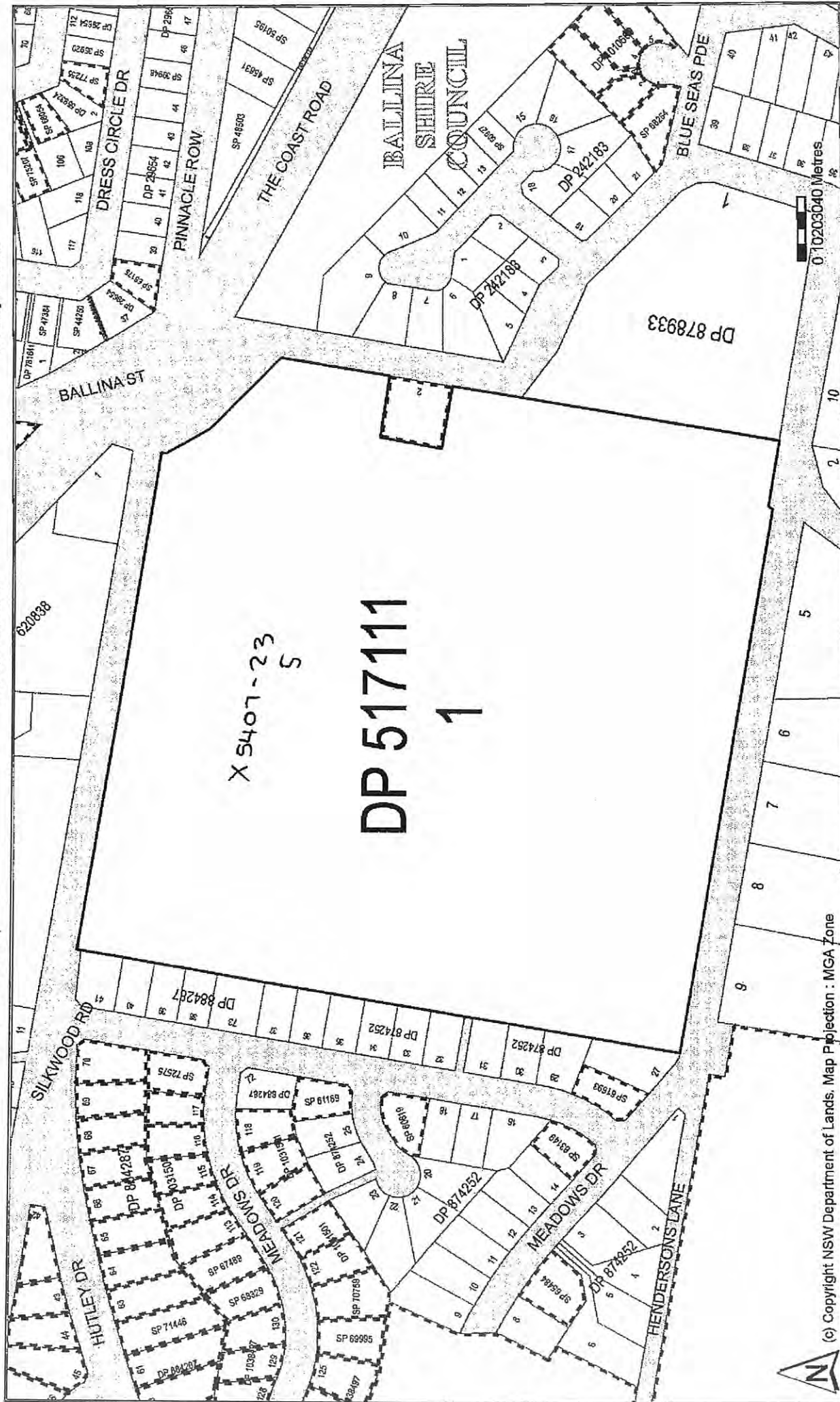
Identified Parcel : Lot 1 DP 517111

Locality : LENNOX HEAD

LGA : BALLINA

Parish : BALLINA

County : ROUS



(c) Copyright NSW Department of Lands. Map Projection : MGA Zone

Report Generated 12:23:27 PM, 20 June, 2008

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGs Charting and Reference Maps.

Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Title Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

## LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/517111  
-----

SEARCH DATE -----	TIME -----	EDITION NO -----	DATE -----
21/6/2008	1:13 PM	3	13/12/2006

### LAND

-----  
LOT 1 IN DEPOSITED PLAN 517111  
AT LENNOX HEAD  
LOCAL GOVERNMENT AREA BALLINA  
PARISH OF BALLINA COUNTY OF ROUS  
TITLE DIAGRAM DP517111

### FIRST SCHEDULE

-----  
CECILIA THERESA CONDON

(ND E285589)

### SECOND SCHEDULE (3 NOTIFICATIONS)

- 
- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
  - 2 P403585 PART OF THE LAND ABOVE DESCRIBED SHOWN IN CROWN PLAN 35044 1603 IS NOW PUBLIC ROAD LIMITED TO SURFACE & 20M BELOW
  - 3 AC808339 MORTGAGE TO ST. GEORGE BANK LIMITED

### NOTATIONS

-----  
UNREGISTERED DEALINGS: NIL

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 21/6/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900

Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Historical Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

21/6/2008 1:15PM

FOLIO: 1/517111

First Title(s): SEE PRIOR TITLE(S)  
Prior Title(s): VOL 11333 FOL 89

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
26/7/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
27/2/1992	E285589	NOTICE OF DEATH	EDITION 1
27/9/2005	AB799291	MORTGAGE	EDITION 2
13/12/2006	AC808338	DISCHARGE OF MORTGAGE	
13/12/2006	AC808339	MORTGAGE	EDITION 3

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 21/6/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.





Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Historical Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH  
-----

SEARCH DATE  
-----

8/8/2008 9:27AM

FOLIO: 1/878933  
-----

First Title(s): VOL 2168 FOL 35  
Prior Title(s): A/396424

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
23/7/1998	DP878933	DEPOSITED PLAN	FOLIO CREATED EDITION 1
9/10/1998	5319140	TRANSFER	
9/10/1998	5319141	MORTGAGE	EDITION 2

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 8/8/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.

Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Historical Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH  
-----

SEARCH DATE  
-----

8/8/2008 9:28AM

FOLIO: A/396424  
-----

First Title(s): SEE PRIOR TITLE(S)  
Prior Title(s): VOL 7226 FOL 181

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
2/9/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
28/12/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
10/2/1998	3788220	TRANSMISSION APPLICATION	EDITION 1
23/7/1998	DP878933	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 8/8/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.



Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Historical Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH  
-----

SEARCH DATE  
-----

8/8/2008 9:29AM

FOLIO: 2/620838  
-----

First Title(s): SEE PRIOR TITLE(S)  
Prior Title(s): VOL 14615 FOL 241

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
13/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
26/4/1990	Y955162	DISCHARGE OF MORTGAGE	
26/4/1990	Y955163	TRANSFER	
26/4/1990	Y955164	MORTGAGE	EDITION 1

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 8/8/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.

NOTES: SEALS AND STATEMENTS of intention to dedicate public roads, drainage reserves, easements, easements on the use of land or positive easements.



Crown Lands Office Approval

Council Clerk's Certificate

Subdivision  
Date: 11 JUL 1998  
Signed: [Signature]  
Crown Clerk

Have been checked with the applicant in relation to the proposed  
"split", "new road", "subdivision" or "consolidated" and all have  
been signed by the applicant in relation to the proposed

The plan is submitted to the Public Trustee in accordance with the provisions of the Public Trustee Act 1997 (NSW) and the Public Trustee Regulations 1998 (NSW) and the Public Trustee has accepted the plan for registration.

The plan is submitted to the Public Trustee in accordance with the provisions of the Public Trustee Act 1997 (NSW) and the Public Trustee Regulations 1998 (NSW) and the Public Trustee has accepted the plan for registration.

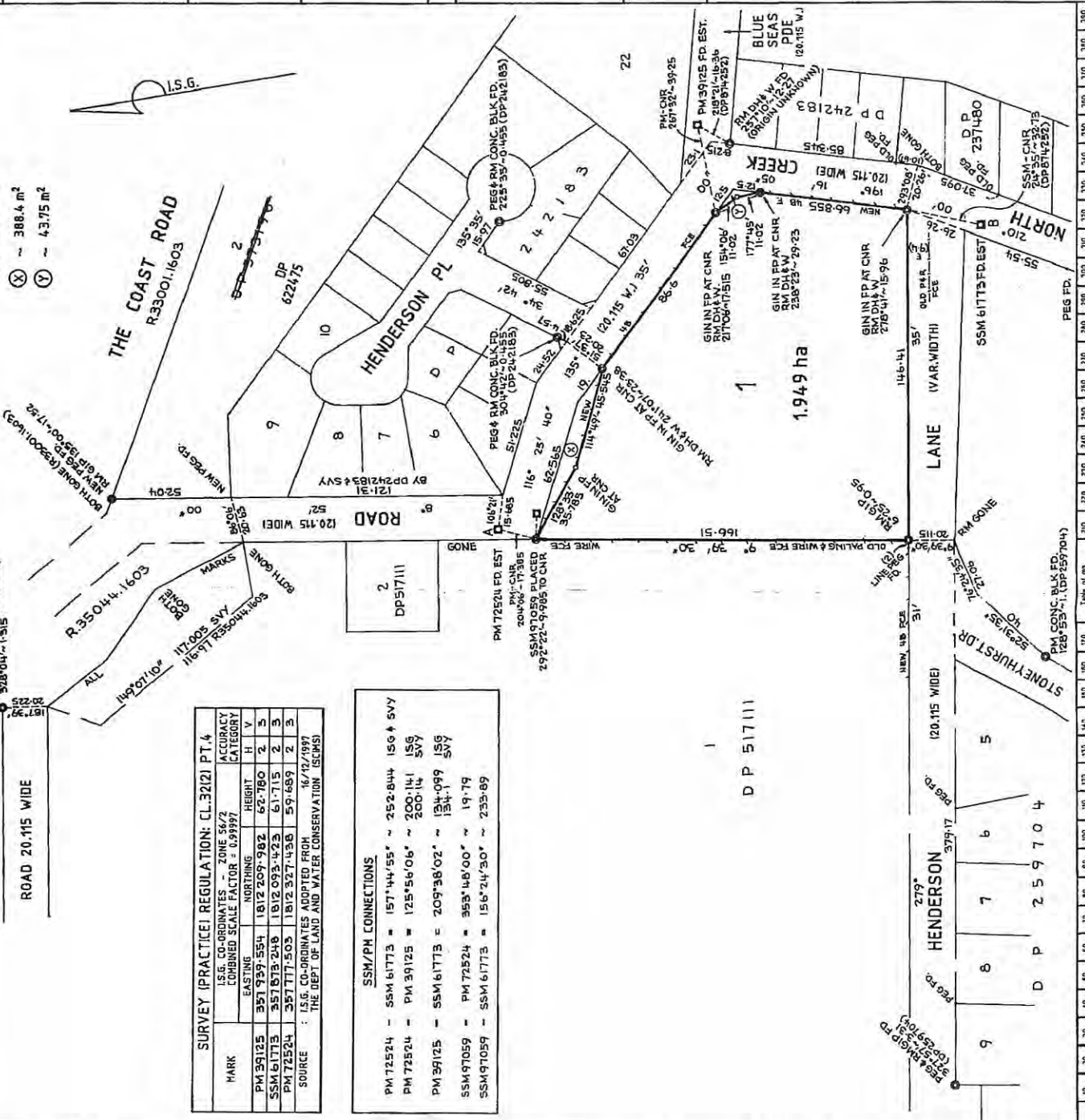
MARK	I.S.G. CO-ORDINATES - ZONE 56/2			COMBINED SCALE FACTOR = 0.99997	HEIGHT	ACCURACY CATEGORY	
	EASTING	NORTHING	H			H	V
PM 39125	357 939.554	1812 209.982	62.780	2	3		
SSM 61773	357 878.248	1812 093.423	61.715	2	3		
PM 72524	357 717.503	1812 337.438	59.689	2	3		
SOURCE : I.S.G. CO-ORDINATES ADAPTED FROM THE DEPT OF LAND AND WATER CONSERVATION (ISCMIS) 16/12/1997							

SSM/PM CONNECTIONS	
PM 72524 - SSM 61773	= 157°44'55" ~ 252.844 156° ± SVY
PM 72524 - PM 39125	= 125°56'06" ~ 200.141 156° ± SVY
PM 39125 - SSM 61773	= 209°38'02" ~ 134.099 156° ± SVY
SSM 61773 - PM 72524	= 353°48'00" ~ 19.719
SSM 61773 - SSM 61773	= 156°24'30" ~ 233.69

Plan Drawing only to appear in this space

ROAD WIDENING  
X ~ 388.4 m<sup>2</sup>  
Y ~ 43.75 m<sup>2</sup>

ROAD 20.115 WIDE



WARNING: CROSSING OR FOLLOING WILL LEAD TO REJECTION

OFFICE USE ONLY

DP 878933  
Registered: 23.7.1998  
C.A. No. 1089 OF 11.6.1998  
Title System: TORRENS  
Purpose: SUBDIVISION  
Ref. Map: X54.07-5  
Last Plan: DP 396424  
PLAN OF SUBDIVISION OF LOT A D.P.396424.  
Lengths are in metres. Reduction Ratio 1:1250  
LGA: BALLINA  
Suburb/Locality: LENNOX HEAD  
Parish: BALLINA  
County: ROUS

This is a sheet of a plan in sheets (Indicate if inapplicable)  
DAVID M. KELLY  
BALLINA SHIRE COUNCIL  
PO BOX 450 BALLINA NSW 2478  
I, the undersigned, being a duly qualified and licensed Surveyor, do hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly qualified and licensed Surveyor under the Surveyors Act 1998.  
The survey relates to LOT 1 ONLY  
I have applied the land subject to the survey to the subject of the survey shown in the plan and the subject of the survey is a public road.  
Signed: [Signature]  
Surveyor registered under the Surveyors Act 1998  
Plans used in preparation of survey / compilation  
DP 242183  
DP 257124  
DP 257124  
DP 874252  
R330011603  
R350441603

PANEL FOR USE ONLY FOR STATEMENTS of intention to dedicate public roads or to create public reserves, drainage reserves, easements, easements on the use of land or positive easements.  
IT IS INTENDED TO DEDICATE THE ROAD WIDENING 1988.4m AND 43.75m TO THE PUBLIC AS ROAD.

DP 878933

**Note 2:**

**Current Search**

Folio Identifier 2/620838 (title attached)  
DP 620838 (plan unavailable)  
Dated 08 August 2008  
**WILLIAM MICHAEL CONDON**

**Title Tree**  
**Lot 2 DP 620838**

Folio Identifier 2/620838

Certificate of Title Volume 14615 Folio 241

Certificate of Title Volume 13286 Folio 131

Certificate of Title Volume 13016 Folio 164

Certificate of Title Volume 11333 Folio 88

Certificate of Title Volume 7630 Folio 141

Certificate of Title Volume 5812 Folio 129

Certificate of Title Volume 3765 Folio 75

Certificate of Title Volume 3424 Folio 18

Certificate of Title Volume 3221 Folio 129

Certificate of Title Volume 483 Folio 128

\*\*\*\*

B97

/Req: B440082

/Doc: CT 14615-241

/Prt: 20-Jun-2008

N.L.W. SOUTH WALES

Crown Grant Vol. 483 Fol. 128

Prior Title Vol. 13286 Fol. 131

STATE OF TITLE

PROPERTY ACT, 1960



Vol. \_\_\_\_\_ Fol. \_\_\_\_\_

EDITION ISSUED

7 12 1981

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**

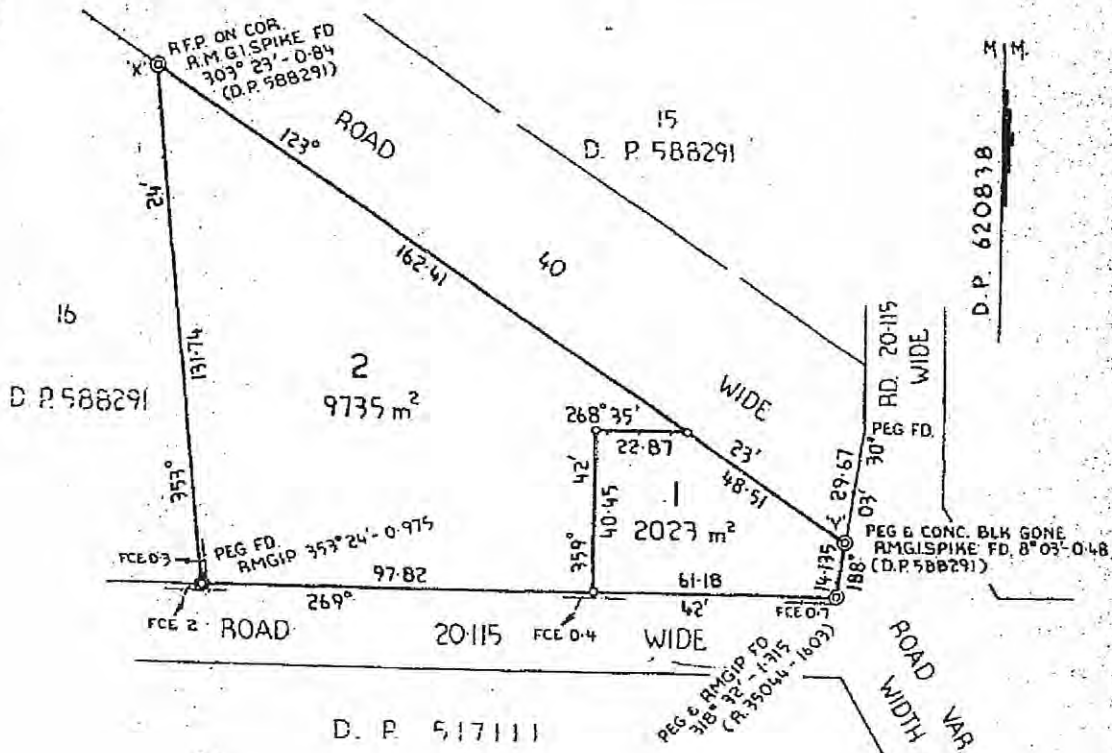
Registrar General.

SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



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

14615 Fol. 241

(Page 1) Vol. \_\_\_\_\_

5

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 620838 at Lennox Head in the Shire of Ballina Parish of Ballina and County of Ross. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~SAMUEL WILLIAM GORDON and CECILIA THERESA GORDON, as Joint Tenants.~~

GRM

SECOND SCHEDULE

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

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

## FIRST SCHEDULE (continued)

## REGISTERED PROPRIETOR

Registrar General

William Michael Condon and Dellphene Agnes Condon as joint tenants by Transfer T376920.  
Registered 19-1-1983.

CANCELLED

SEE AUTO FOLIO

## SECOND SCHEDULE (continued)

## PARTICULARS

Registrar General

CANCELLATION

MH T747200 Mortgage to Defence Service Homes Corporation. Registered 23-9-1983

## NOTATIONS AND UNREGISTERED DEALINGS

T376920  
T747200 M R

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



NEW SOUTH WALES

Crown Grant Vol. 483 Fol.128

Prior Title Vol.13286 Fol.131

# CERTIFICATE OF TITLE

PROPERTY ACT, 1900



Vol. .... FOR ...

EDITION ISSUED

7 12 1987

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**

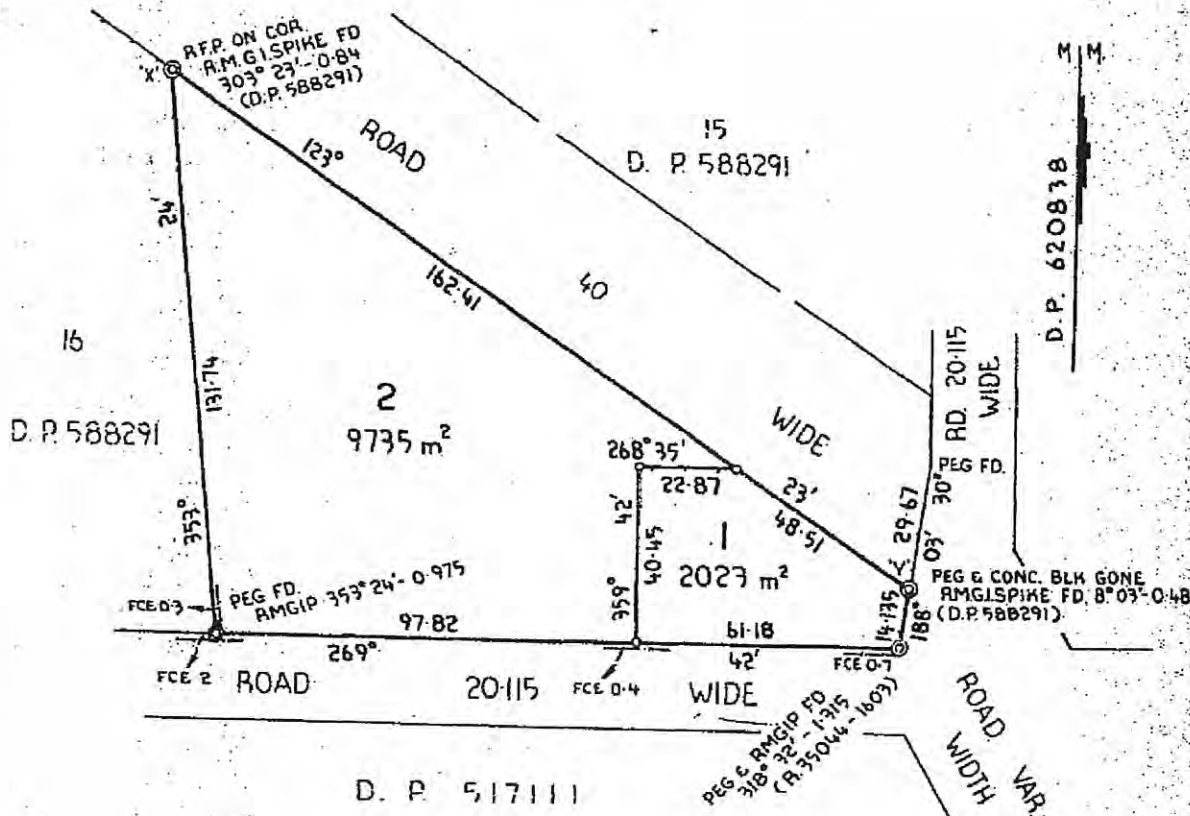
Registrar General.

SEE AUTO FOLIO



## PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



### ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 620838 at Lennox Head in the Shire of Ballina Parish of Ballina and County of Ross. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

### FIRST SCHEDULE

~~SAMUEL WILLIAM CONDON and CECILIA TERESA CONDON, as Joint Tenants.~~

### SECOND SCHEDULE

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

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

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

Registrar General

William Michael Condon and Dellpene Agnes Condon as joint tenants by Transfer T376920.  
 Registered 19-1-1983.

**CANCELLED**

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS

Registrar General

CANCELLATION

MH T747200P Mortgage to Defence Service Homes Corporation. Registered 23-9-1983

NOTATIONS AND UNREGISTERED DEALINGS

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

Information Provided Through  
Advance Legal Search Pty Ltd  
Ph. 0297541590 Fax. 0297541364

# Title Search

**LEAP Legal**  
An Approved LPI NSW  
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH  
-----

FOLIO: 2/620838  
-----

SEARCH DATE -----	TIME ----	EDITION NO -----	DATE ----
8/8/2008	9:25 AM	1	26/4/1990

LAND  
-----

LOT 2 IN DEPOSITED PLAN 620838  
AT LENNOX HEAD  
LOCAL GOVERNMENT AREA BALLINA  
PARISH OF BALLINA COUNTY OF ROUS  
TITLE DIAGRAM DP620838

FIRST SCHEDULE  
-----

WILLIAM MICHAEL CONDON (T Y955163)

SECOND SCHEDULE (2 NOTIFICATIONS)  
-----

- 1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND  
CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
- 2 Y955164 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS  
-----

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES  
NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED  
CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS  
RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE  
IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND  
COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

\*\*\* END OF SEARCH \*\*\*

Coffey - Lennox Head ALSP

PRINTED ON 8/8/2008

\* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY  
RECORDED IN THE REGISTER. ADVANCE LEGAL SEARCH PTY LTD CERTIFIES THAT THE INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN PROVIDED ELECTRONICALLY BY THE  
REGISTRAR-GENERAL IN ACCORDANCE WITH SECTION 96B(2) OF THE REAL PROPERTY ACT, 1900.



NEW SOUTH WALES

Crown Grants Vol. 483 Fol. 128  
Vol. 957 Fol. 128

Prior Title Vol. 13016 Fol. 164

# STATE OF TITLE

PROPERTY ACT, 1900

Vol. 13286 Fol. 131

EDITION ISSUED

28 3 1977



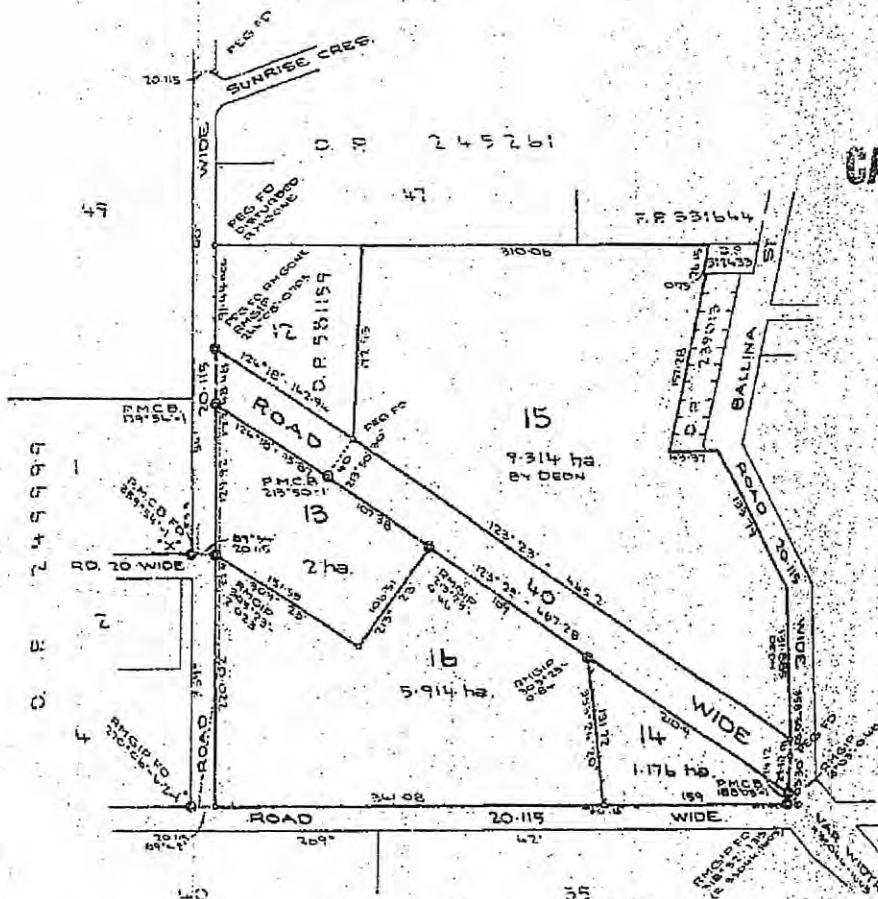
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General



## PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



**CANCELLED**

### ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 14 in Deposited Plan 588291 at Lennox Head in the Shire of Ballina Parish of Ballina and County of Roue. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

### FIRST SCHEDULE

SAMUEL WILLIAM CONDON of Lennox Head, Farmer and CECILIA THERESA CONDON, his wife, as Joint Tenants.

### SECOND SCHEDULE

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

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

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TILES OFFICE

B97

/Req: B453630  
/Doc: CT 13286-131  
/Prt: 11-Aug-2008

PERSONS ARE CAUTIONED AGAINST ALTERING OR A

(Page 1) Vol. 13286 Fol. 131



NEW SOUTH WALES

Crown Grants Vol. 483 Fol.  
Vol. 957 Fol.

Prior Title Vol. 13016 Fol. 164

# STATE OF TITLE

PROPERTY ACT, 1900



Vol. 13286 Fol. 131

EDITION ISSUED

28 3 1977

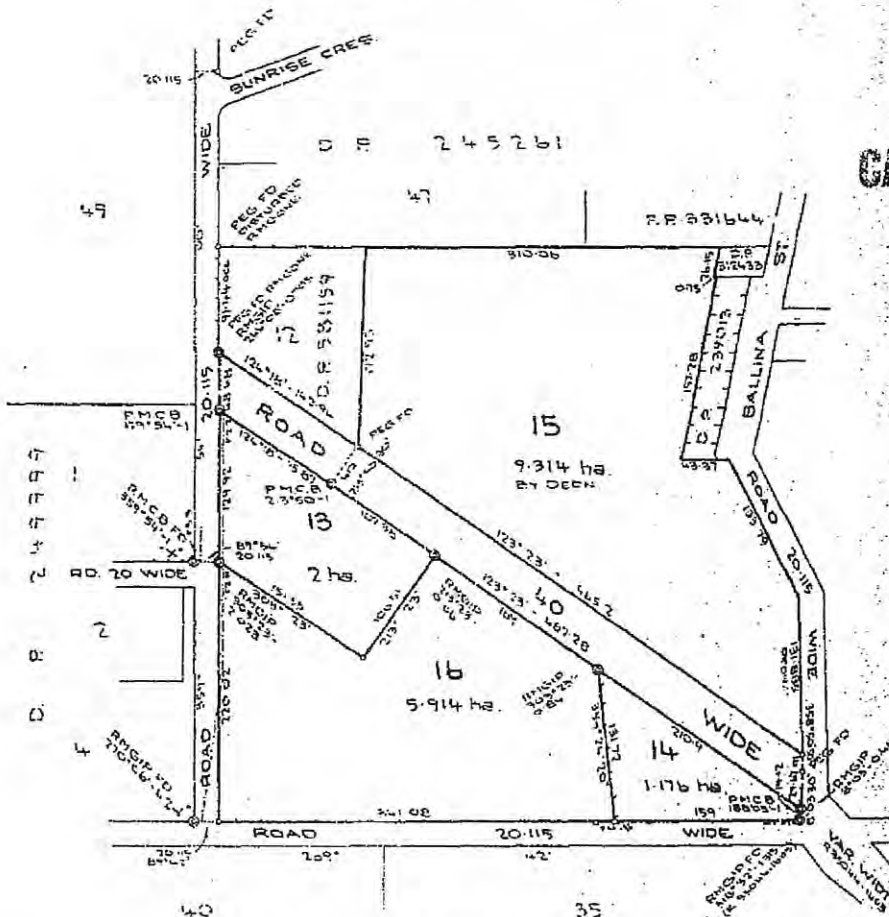
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.



## PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



### ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 14 in Deposited Plan 588291 at Lennox Head in the Shire of Ballina Parish of Ballina and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

### FIRST SCHEDULE

SAMUEL WILLIAM CONDON of Lennox Head, Farmer and GECILIA THERESA CONDON, his wife, as Joint Tenants.

### SECOND SCHEDULE

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

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

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TILES OFFICE.

B97  
/Reg: B440084  
/Doc: CT 13286-131  
/Prt: 20-Jun-2008

PERSONS ARE CAUTIONED THAT ON ADDING TO OR ALTERING ANYTHING DENOTED OR AN

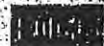
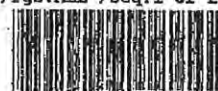






# CERTIFICATE OF TITLE

PROPERTY ACT, 1900



NEW SOUTH WALES

Vol. 13016 Fol. 164

EDITION ISSUED

17 3 1976

Crown Grant Vol. 483 Fol. 128  
Vol. 957 Fol. 78

Prior Title Vol. 11333 Fol. 88



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.

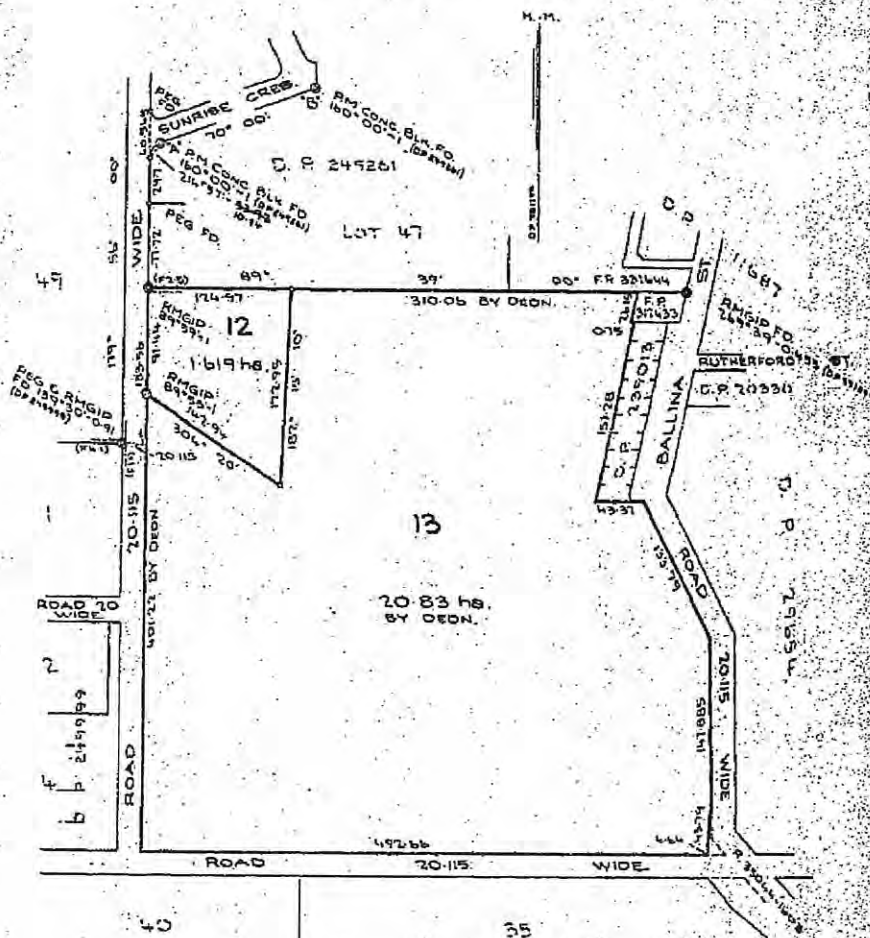
*Jaworski*  
Registrar General.



## PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

**CANCELLED**



## ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 13 in Deposited Plan 581159 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Ross. EXCEPTING THEREFROM the minerals reserved by the Crown Grants.

## FIRST SCHEDULE

SAMUEL WILLIAM CONDON of Lennox Head, Farmer and CECILIA THERESA CONDON, his wife, as Joint Tenants.

## SECOND SCHEDULE

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



**REGISTERED PROPRIETOR**

This deed is cancelled as to the whole as con-  
New partition of title have issued on 24-2-1977.  
for lots in Survey 122 Plan No. 58891 as follows:-  
Lots 13 to 16 Vol. 13286 Fol. 13013 respectively.

REGISTRAR GENERAL

NEW CERTIFICATE OF	TITLE ISSUING ON 08/28/85
NO DEALING TO BE	REGISTERED WITHOUT REFERENCE TO
	SUNVEY DRAFTING BRANCH

## SECOND SCHEDULE (continued)

INTEREST IN THE COUNCIL OF THE SHIRE OF  
BALLINA IN THE NEW ROAD SHEDD IN DP588291

The residue of land in this folio comprises  
now land shown in DP58829.

~~REGISTRAR GENERAL~~

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

NEW SOUTH WALES

# CERTIFICATE OF TITLE

PROPERTY ACT, 1900



Vol. 13016 Fol. 164

Crown Grant Vol. 483 Fol. 128  
Vol. 957 Fol. 78  
Prior Title Vol. 11353 Fol. 88



EDITION ISSUED

17 3 1976

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.

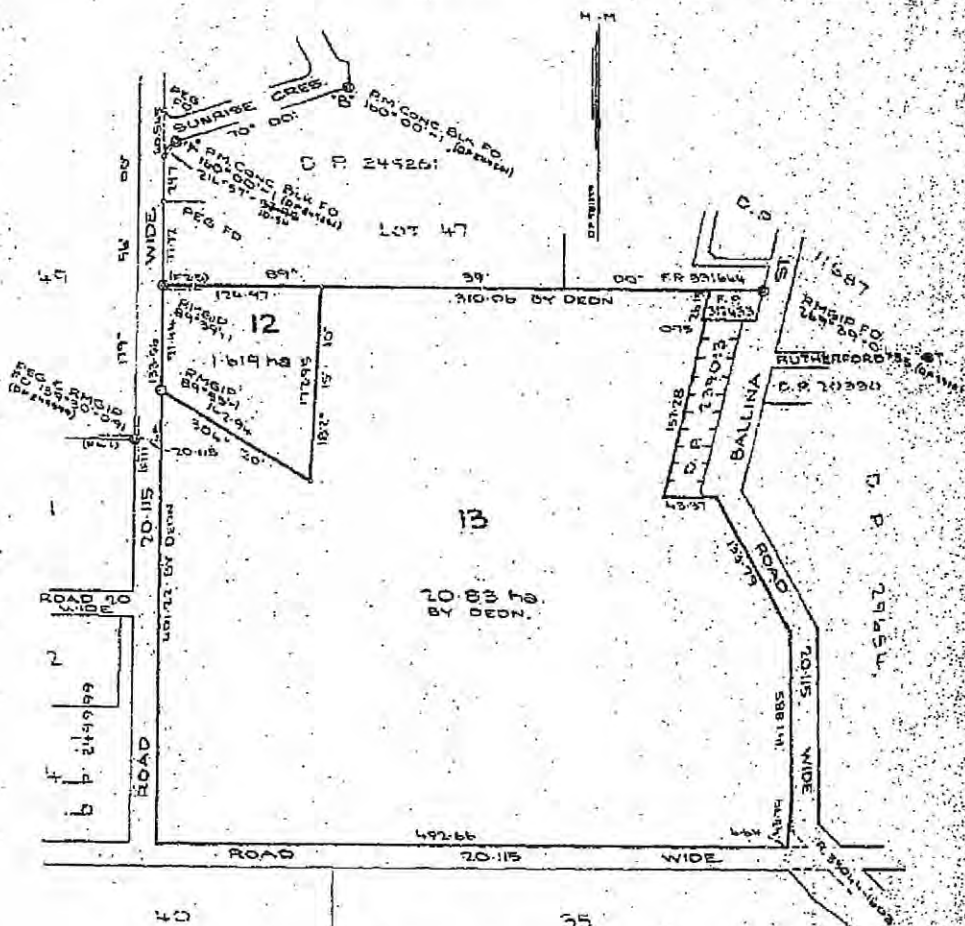
*J. Watson*  
Registrar General.



## PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

**CANCELLED**



### ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 13 in Deposited Plan 581159 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Ross. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

### FIRST SCHEDULE

SAMUEL WILLIAM CONDON of Lennox Head, Farmer and CECILIA THERESA CONDON, his wife, as Joint Tenants.

### SECOND SCHEDULE

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

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

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



0.52231  
993-77

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

This deed is cancelled as to the whole ex parte  
New Certificate of Title have issued on 24.1.3.1977  
for lots in "Beverly" Plan No. 588291 as follows:-  
Lots 13 to 18 Vol. 13016 Fol. 13016 respectively.



REGISTRAR GENERAL

NEW CERTIFICATE OF TITLE ISSUED ON 24.1.3.1977  
NO DEEDING TO BE REGISTERED WITHOUT REFERENCE TO  
SURREY DRAFTING BRANCH

SECOND SCHEDULE (continued)

PARTICULARS

INTEREST IN THE COUNCIL OF THE SHARE OF  
BALLINA IN THE NEW ROAD SHOWN IN DP588291

The residue of land in this Folio comprises  
new road shown in DP588291.



REGISTRAR GENERAL

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

13016 Vol. 164





**Run: 2**  
**Photo: SVY122**  
**Date: 27/5/47**  
**Location: Byron Bay**

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4

**coffey**  
**geotechnics**  
 SPECIALISTS MANAGING  
 THE EARTH

client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 1947	
project no:	GEOTALST03192AA-AC	figure no: A1





Run: 5  
Photo: 326 5067  
Date: 12/10/58

Location: Lismore/Ballina

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4



client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 1958	
project no:	GEOTALST03192AA-AC	figure no: A2





Run: 7  
Photo: 1520 5121  
Date: 29/5/67

Location: Lismore/Ballina

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4




client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 1967	
project no:	GEOTALST03192AA-AC	figure no: A3





Run: 5  
Photo: 2771 207  
Date: 3/4/79

Location: Ballina

drawn	ST		client:	Indigo (Lennox Head) Developer Pty Ltd	
approved			project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
date	22/04/09		title:	Extract Aerial Photograph - 1979	
scale	NTS		project no:	GEOTALST03192AA-AC	figure no: A4
original size	A4				





Run: 5  
Photo: 3584 223

Date: 1/8/87

Location: Ballina

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4



client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 1987	
project no:	GEOTALST03192AA-AC	figure no: A5





Run: 8  
Photo: 4359 108  
Date: 22/4/97

Location: Ballina (NSW4359 M2063)

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4



client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 1997	
project no:	GEOTALST03192AA-AC	figure no: A6





Run: 13  
Photo: 100 105  
Date: 13/8/04

Location: Lennox Head  
(NSW4866 M2425)

drawn	ST
approved	
date	22/04/09
scale	NTS
original size	A4

**coffey**  
geotechnics  
SPECIALISTS MANAGING  
THE EARTH

client:	Indigo (Lennox Head) Developer Pty Ltd	
project:	Phase 1 Site Contamination Assessment for Proposed Rezoning, Lennox Head NSW	
title:	Extract Aerial Photograph - 2004	
project no:	GEOTALST03192AA-AC	figure no: A7

# Appendix B

## Laboratory Reports



# CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd  
Unit 1 18 Hurley Dve  
Coffs Harbour  
NSW 2450  
Site: GEOTALST03192AA

Report Number: 229794 Page 1 of 45  
Order Number:  
Date Received: Jul 03, 2008  
Date Sampled: Jun 25, 2008  
Date Reported: Jul 17, 2008  
Contact: Andrew Ballard

## Methods

- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
- USEPA 8141A Organophosphorus Pesticides
- USEPA 8081A Organochlorine Pesticides
- USEPA 8270C Polycyclic Aromatic Hydrocarbons
- USEPA 8260B - MGT 350A Monocyclic Aromatic Hydrocarbons
- TRH C6-C36 - MGT 100A
- Method 102 - ANZECC - % Moisture

## Comments

### Notes

1. The results in this report supersede any previously corresponded results.
2. All Soil Results are reported on a dry basis.
3. Samples are analysed on an as received basis.
4. LOR's are matrix dependent. Stated LOR's may be raised where sample extracts are diluted due to interferences.

### ABBREVIATIONS

mg/kg : milligrams per kilograms, mg/L : milligrams per litre, ppm : parts per million,

LOR : Limit of Reporting

RPD : Relative Percent Difference

CRM : Certified Reference Material

LCS : Laboratory Control Sample

Authorised

Report Number: 229794

Michael Wright  
Laboratory Manager  
NATA Signatory

Onur Mehmet  
Client Manager  
NATA Signatory

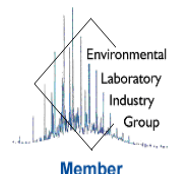
Orlando Scalzo  
Chief Organic Chemist  
NATA Signatory

Tammy Lakeland  
Chief Inorganic Chemist



NATA Accredited  
Laboratory Number 1261

The tests, calibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirements of ISO/IEC 17025 and are traceable to national standards of measurement. This document shall not be reproduced, except in full.



<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS01</b>	<b>SS02</b>	<b>SS03</b>	<b>SS04</b>
	<b>Lab Number</b>		<b>M08-JL01264</b>	<b>M08-JL01265</b>	<b>M08-JL01266</b>	<b>M08-JL01267</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Total Recoverable Hydrocarbons</b>						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	-
<b>Monocyclic Aromatic Hydrocarbons</b>						
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toluene	0.05	mg/kg	< 0.05	0.88	< 0.05	-
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Fluorobenzene (surr.)	1	%	63	63	56	-
<b>Polycyclic Aromatic Hydrocarbons</b>						
Acenaphthene	0.1	mg/kg	< 0.1	-	< 0.1	-
Acenaphthylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Anthracene	0.1	mg/kg	< 0.1	-	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	< 0.1	-	< 0.1	-
Benzo(a)pyrene	0.1	mg/kg	< 0.1	-	< 0.1	-
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	-	< 0.1	-
Benzo(g,h,i)perylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	-	< 0.1	-
Chrysene	0.1	mg/kg	< 0.1	-	< 0.1	-
Dibenz(a,h)anthracene	0.1	mg/kg	< 0.1	-	< 0.1	-
Fluoranthene	0.1	mg/kg	< 0.1	-	< 0.1	-
Fluorene	0.1	mg/kg	< 0.1	-	< 0.1	-
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	< 0.1	-	< 0.1	-
Naphthalene	0.1	mg/kg	< 0.1	-	< 0.1	-
Phenanthrene	0.1	mg/kg	< 0.1	-	< 0.1	-
Pyrene	0.1	mg/kg	< 0.1	-	< 0.1	-
Total PAH	0.1	mg/kg	< 0.1	-	< 0.1	-
Chrysene-d12 (surr.)	1	%	86	-	61	-
2-Fluorobiphenyl (surr.)	1	%	103	-	90	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS01</b>	<b>SS02</b>	<b>SS03</b>	<b>SS04</b>
	<b>Lab Number</b>		<b>M08-JL01264</b>	<b>M08-JL01265</b>	<b>M08-JL01266</b>	<b>M08-JL01267</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchloroendate (surr.)	1	%	124	109	116	-
Tetrachloro-m-xylene (surr.)	1	%	109	88	95	-
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS01</b>	<b>SS02</b>	<b>SS03</b>	<b>SS04</b>
	<b>Lab Number</b>		<b>M08-JL01264</b>	<b>M08-JL01265</b>	<b>M08-JL01266</b>	<b>M08-JL01267</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	85	98	81	-
% Moisture	0.1	%	46	67	66	54
<b>Heavy Metals (7)</b>						
Arsenic	2.0	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	54	33	47	46
Copper	5	mg/kg	15	11	< 5	13
Lead	5	mg/kg	19	8.5	9.7	5.0
Nickel	5	mg/kg	39	16	20	37
Zinc	5	mg/kg	170	48	50	100
<b>Heavy Metals</b>						

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia  
Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia  
Telephone: (03) 9564 7055  
Fax: (03) 9564 7190  
Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS01	SS02	SS03	SS04
	Lab Number		M08-JL01264	M08-JL01265	M08-JL01266	M08-JL01267
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	0.1	0.1	0.1

COMMENTS:

**Coffey Geotechnics Pty Ltd**

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		SS10	SS11	SS12	SS13
Unit 1 18 Hurley Dve	Lab Number	M08-JL01272	M08-JL01273	M08-JL01274	M08-JL01275
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units			
<b>Total Recoverable Hydrocarbons</b>					
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	120	-
<b>Monocyclic Aromatic Hydrocarbons</b>					
Benzene	0.05	mg/kg	< 0.05	< 0.05	-
Toluene	0.05	mg/kg	< 0.05	< 0.05	-
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	-
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	-
Fluorobenzene (surr.)	1	%	86	112	-
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	0.1	mg/kg	-	< 0.1	-
Acenaphthylene	0.1	mg/kg	-	< 0.1	-
Anthracene	0.1	mg/kg	-	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	-	0.3	-
Benzo(a)pyrene	0.1	mg/kg	-	0.3	-
Benzo(b)fluoranthene	0.1	mg/kg	-	0.4	-
Benzo(g,h,i)perylene	0.1	mg/kg	-	0.4	-
Benzo(k)fluoranthene	0.1	mg/kg	-	0.2	-
Chrysene	0.1	mg/kg	-	0.3	-
Dibenz(a,h)anthracene	0.1	mg/kg	-	0.1	-
Fluoranthene	0.1	mg/kg	-	0.8	-
Fluorene	0.1	mg/kg	-	< 0.1	-
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	-	0.3	-
Naphthalene	0.1	mg/kg	-	< 0.1	-
Phenanthrene	0.1	mg/kg	-	0.2	-
Pyrene	0.1	mg/kg	-	0.7	-
Total PAH	0.1	mg/kg	-	4.0	-
Chrysene-d12 (surr.)	1	%	-	81	-
2-Fluorobiphenyl (surr.)	1	%	-	94	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS10</b>	<b>SS11</b>	<b>SS12</b>	<b>SS13</b>
	<b>Lab Number</b>		<b>M08-JL01272</b>	<b>M08-JL01273</b>	<b>M08-JL01274</b>	<b>M08-JL01275</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Chlordane	0.1	mg/kg	< 0.1	< 0.1	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxophene	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	132	90	-	-
Tetrachloro-m-xylene (surr.)	1	%	111	100	-	-
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	-
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	-

COMMENTS:



<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS10</b>	<b>SS11</b>	<b>SS12</b>	<b>SS13</b>
	<b>Lab Number</b>		<b>M08-JL01272</b>	<b>M08-JL01273</b>	<b>M08-JL01274</b>	<b>M08-JL01275</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Naled	0.2	mg/kg	< 0.2	< 0.2	-	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	79	119	-	-
% Moisture	0.1	%	48	21	35	52
<b>Heavy Metals (7)</b>						
Arsenic	2.0	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	25	20	35	73
Copper	5	mg/kg	13	11	< 5	7.7
Lead	5	mg/kg	< 5	6.1	< 5	< 5
Nickel	5	mg/kg	29	25	29	31
Zinc	5	mg/kg	100	85	150	98
<b>Heavy Metals</b>						

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia  
Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia  
Telephone: (03) 9564 7055  
Fax: (03) 9564 7190  
Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS10	SS11	SS12	SS13
	Lab Number		M08-JL01272	M08-JL01273	M08-JL01274	M08-JL01275
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Coffey Geotechnics Pty Ltd

Coffey Geotechnics Pty Ltd	Client Sample ID		SS14	SS15	SS16	SS18
Unit 1 18 Hurley Dve	Lab Number		M08-JL01276	M08-JL01277	M08-JL01278	M08-JL01279
Coffs Harbour	Matrix		Soil	Soil	Soil	Soil
NSW 2450	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	-	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	-	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	-	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	110	-	< 100
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Toluene	0.05	mg/kg	-	< 0.05	-	< 0.05
Ethylbenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	-	< 0.05	-	< 0.05
Fluorobenzene (surr.)	1	%	-	78	-	108
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.1	mg/kg	< 0.1	-	-	-
Acenaphthylene	0.1	mg/kg	< 0.1	-	-	-
Anthracene	0.1	mg/kg	< 0.1	-	-	-
Benz(a)anthracene	0.1	mg/kg	< 0.1	-	-	-
Benzo(a)pyrene	0.1	mg/kg	< 0.1	-	-	-
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Benzo(g,h,i)perylene	0.1	mg/kg	< 0.1	-	-	-
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Chrysene	0.1	mg/kg	< 0.1	-	-	-
Dibenz(a,h)anthracene	0.1	mg/kg	< 0.1	-	-	-
Fluoranthene	0.1	mg/kg	< 0.1	-	-	-
Fluorene	0.1	mg/kg	< 0.1	-	-	-
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	< 0.1	-	-	-
Naphthalene	0.1	mg/kg	< 0.1	-	-	-
Phenanthrene	0.1	mg/kg	< 0.1	-	-	-
Pyrene	0.1	mg/kg	< 0.1	-	-	-
Total PAH	0.1	mg/kg	< 0.1	-	-	-
Chrysene-d12 (surr.)	1	%	68	-	-	-
2-Fluorobiphenyl (surr.)	1	%	98	-	-	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS14</b>	<b>SS15</b>	<b>SS16</b>	<b>SS18</b>
	<b>Lab Number</b>		<b>M08-JL01276</b>	<b>M08-JL01277</b>	<b>M08-JL01278</b>	<b>M08-JL01279</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Chlordane	0.1	mg/kg	-	< 0.1	-	< 0.1
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxophene	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	-	127	-	132
Tetrachloro-m-xylene (surr.)	1	%	-	104	-	110
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS14</b>	<b>SS15</b>	<b>SS16</b>	<b>SS18</b>
	<b>Lab Number</b>		<b>M08-JL01276</b>	<b>M08-JL01277</b>	<b>M08-JL01278</b>	<b>M08-JL01279</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl azinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	86	-	73
% Moisture	0.1	%	39	37	49	26
<b>Heavy Metals (7)</b>						
Arsenic	2.0	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	36	21	29	22
Copper	5	mg/kg	8.2	8.1	8.0	5.9
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	36	29	29	23
Zinc	5	mg/kg	79	79	98	49
<b>Heavy Metals</b>						

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia  
Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia  
Telephone: (03) 9564 7055  
Fax: (03) 9564 7190  
Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS14	SS15	SS16	SS18
	Lab Number		M08-JL01276	M08-JL01277	M08-JL01278	M08-JL01279
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		SS19	SS21	SS22	SS002
Unit 1 18 Hurley Dve	Lab Number	M08-JL01280	M08-JL01281	M08-JL01282	M08-JL01283
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units			
<b>Total Recoverable Hydrocarbons</b>					
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	-	< 100	-
<b>Monocyclic Aromatic Hydrocarbons</b>					
Benzene	0.05	mg/kg	-	< 0.05	-
Toluene	0.05	mg/kg	-	< 0.05	-
Ethylbenzene	0.05	mg/kg	-	< 0.05	-
Xylenes(ortho.meta and para)	0.05	mg/kg	-	< 0.05	-
Fluorobenzene (surr.)	1	%	-	105	-
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	0.1	mg/kg	-	< 0.1	-
Acenaphthylene	0.1	mg/kg	-	< 0.1	-
Anthracene	0.1	mg/kg	-	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	-	< 0.1	-
Benzo(a)pyrene	0.1	mg/kg	-	< 0.1	-
Benzo(b)fluoranthene	0.1	mg/kg	-	< 0.1	-
Benzo(g,h,i)perylene	0.1	mg/kg	-	< 0.1	-
Benzo(k)fluoranthene	0.1	mg/kg	-	< 0.1	-
Chrysene	0.1	mg/kg	-	< 0.1	-
Dibenz(a,h)anthracene	0.1	mg/kg	-	< 0.1	-
Fluoranthene	0.1	mg/kg	-	< 0.1	-
Fluorene	0.1	mg/kg	-	< 0.1	-
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	-	< 0.1	-
Naphthalene	0.1	mg/kg	-	< 0.1	-
Phenanthrene	0.1	mg/kg	-	< 0.1	-
Pyrene	0.1	mg/kg	-	< 0.1	-
Total PAH	0.1	mg/kg	-	< 0.1	-
Chrysene-d12 (surr.)	1	%	-	91	-
2-Fluorobiphenyl (surr.)	1	%	-	111	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS19</b>	<b>SS21</b>	<b>SS22</b>	<b>SS002</b>
	<b>Lab Number</b>		<b>M08-JL01280</b>	<b>M08-JL01281</b>	<b>M08-JL01282</b>	<b>M08-JL01283</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Chlordane	0.1	mg/kg	-	< 0.1	-	< 0.1
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxophene	0.1	mg/kg	-	< 0.1	-	< 0.1
Dibutylchloroendate (surr.)	1	%	-	123	-	97
Tetrachloro-m-xylene (surr.)	1	%	-	107	-	89
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2

COMMENTS:



Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS19	SS21	SS22	SS002
	Lab Number		M08-JL01280	M08-JL01281	M08-JL01282	M08-JL01283
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl azinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	90	-	114
% Moisture	0.1	%	34	47	37	33
Heavy Metals (7)						
Arsenic	2.0	mg/kg	< 2	< 2	2.1	3.1
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	8.9	58	44	28
Copper	5	mg/kg	< 5	10	15	15
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	24	34	30	24
Zinc	5	mg/kg	47	120	57	88
Heavy Metals						

COMMENTS:

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS19	SS21	SS22	SS002
	Lab Number		M08-JL01280	M08-JL01281	M08-JL01282	M08-JL01283
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Coffey Geotechnics Pty Ltd

Client Sample ID		SS25	SS26	SS27	SS28
Unit 1 18 Hurley Dve	Lab Number	M08-JL01285	M08-JL01286	M08-JL01287	M08-JL01288
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units			
<b>Total Recoverable Hydrocarbons</b>					
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	< 100	< 100
<b>Monocyclic Aromatic Hydrocarbons</b>					
Benzene	0.05	mg/kg	-	< 0.05	< 0.05
Toluene	0.05	mg/kg	-	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	-	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	-	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	-	53	83
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	0.1	mg/kg	-	-	< 0.1
Acenaphthylene	0.1	mg/kg	-	-	< 0.1
Anthracene	0.1	mg/kg	-	-	< 0.1
Benz(a)anthracene	0.1	mg/kg	-	-	< 0.1
Benzo(a)pyrene	0.1	mg/kg	-	-	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	-	-	< 0.1
Benzo(g,h,i)perylene	0.1	mg/kg	-	-	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	-	-	< 0.1
Chrysene	0.1	mg/kg	-	-	< 0.1
Dibenz(a,h)anthracene	0.1	mg/kg	-	-	< 0.1
Fluoranthene	0.1	mg/kg	-	-	< 0.1
Fluorene	0.1	mg/kg	-	-	< 0.1
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	-	-	< 0.1
Naphthalene	0.1	mg/kg	-	-	< 0.1
Phenanthrene	0.1	mg/kg	-	-	< 0.1
Pyrene	0.1	mg/kg	-	-	< 0.1
Total PAH	0.1	mg/kg	-	-	< 0.1
Chrysene-d12 (surr.)	1	%	-	-	91
2-Fluorobiphenyl (surr.)	1	%	-	-	107

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS25</b>	<b>SS26</b>	<b>SS27</b>	<b>SS28</b>
	<b>Lab Number</b>		<b>M08-JL01285</b>	<b>M08-JL01286</b>	<b>M08-JL01287</b>	<b>M08-JL01288</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Chlordane	0.1	mg/kg	-	< 0.1	< 0.1	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxophene	0.1	mg/kg	-	< 0.1	< 0.1	-
Dibutylchloroendate (surr.)	1	%	-	60	106	-
Tetrachloro-m-xylene (surr.)	1	%	-	50	104	-
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	-
Coumaphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS25</b>	<b>SS26</b>	<b>SS27</b>	<b>SS28</b>
	<b>Lab Number</b>		<b>M08-JL01285</b>	<b>M08-JL01286</b>	<b>M08-JL01287</b>	<b>M08-JL01288</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl azinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Naled	0.2	mg/kg	-	< 0.2	< 0.2	-
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	96	94	-
% Moisture	0.1	%	36	49	34	31
<b>Heavy Metals (7)</b>						
Arsenic	2.0	mg/kg	2.7	2.2	3.0	2.5
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	64	76	24	43
Copper	5	mg/kg	20	16	18	16
Lead	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	36	29	24	33
Zinc	5	mg/kg	75	61	95	46
<b>Heavy Metals</b>						

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia  
Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia  
Telephone: (03) 9564 7055  
Fax: (03) 9564 7190  
Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS25	SS26	SS27	SS28
	Lab Number		M08-JL01285	M08-JL01286	M08-JL01287	M08-JL01288
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	0.1	0.1	< 0.1

COMMENTS:

Coffey Geotechnics Pty Ltd

Client Sample ID		SS33	SS34	SS35	SS37
Unit 1 18 Hurley Dve	Lab Number	M08-JL01292	M08-JL01293	M08-JL01294	M08-JL01295
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units			
Total Recoverable Hydrocarbons					
TRH C6-C9 Fraction by GC	20	mg/kg	-	-	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	-	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	-	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	-	< 100
Monocyclic Aromatic Hydrocarbons					
Benzene	0.05	mg/kg	-	-	< 0.05
Toluene	0.05	mg/kg	-	-	< 0.05
Ethylbenzene	0.05	mg/kg	-	-	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	-	-	< 0.05
Fluorobenzene (surr.)	1	%	-	-	75
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.1	mg/kg	-	-	< 0.1
Acenaphthylene	0.1	mg/kg	-	-	< 0.1
Anthracene	0.1	mg/kg	-	-	< 0.1
Benz(a)anthracene	0.1	mg/kg	-	-	< 0.1
Benzo(a)pyrene	0.1	mg/kg	-	-	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	-	-	< 0.1
Benzo(g,h,i)perylene	0.1	mg/kg	-	-	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	-	-	< 0.1
Chrysene	0.1	mg/kg	-	-	< 0.1
Dibenz(a,h)anthracene	0.1	mg/kg	-	-	< 0.1
Fluoranthene	0.1	mg/kg	-	-	< 0.1
Fluorene	0.1	mg/kg	-	-	< 0.1
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	-	-	< 0.1
Naphthalene	0.1	mg/kg	-	-	< 0.1
Phenanthrene	0.1	mg/kg	-	-	< 0.1
Pyrene	0.1	mg/kg	-	-	< 0.1
Total PAH	0.1	mg/kg	-	-	< 0.1
Chrysene-d12 (surr.)	1	%	-	-	97
2-Fluorobiphenyl (surr.)	1	%	-	-	115

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>SS33</b>	<b>SS34</b>	<b>SS35</b>	<b>SS37</b>
	<b>Lab Number</b>		<b>M08-JL01292</b>	<b>M08-JL01293</b>	<b>M08-JL01294</b>	<b>M08-JL01295</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-BHC	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-BHC	0.05	mg/kg	-	-	< 0.05	-
Chlordane	0.1	mg/kg	-	-	< 0.1	-
d-BHC	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxophene	0.1	mg/kg	-	-	< 0.1	-
Dibutylchloroendate (surr.)	1	%	-	-	87	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	90	-
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	-	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	-	< 0.2	-
Coumaphos	0.2	mg/kg	-	-	< 0.2	-
Demeton-O	0.2	mg/kg	-	-	< 0.2	-

COMMENTS:



Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS33	SS34	SS35	SS37
	Lab Number		M08-JL01292	M08-JL01293	M08-JL01294	M08-JL01295
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Diazinon	0.2	mg/kg	-	-	< 0.2	-
Dichlorvos	0.2	mg/kg	-	-	< 0.2	-
Disulfoton	0.2	mg/kg	-	-	< 0.2	-
Ethion	0.2	mg/kg	-	-	< 0.2	-
Ethoprop	0.2	mg/kg	-	-	< 0.2	-
Fenitrothion	0.2	mg/kg	-	-	< 0.2	-
Fensulfothion	0.2	mg/kg	-	-	< 0.2	-
Fenthion	0.2	mg/kg	-	-	< 0.2	-
Merphos	0.2	mg/kg	-	-	< 0.2	-
Methyl azinphos	0.2	mg/kg	-	-	< 0.2	-
Methyl parathion	0.2	mg/kg	-	-	< 0.2	-
Mevinphos	0.2	mg/kg	-	-	< 0.2	-
Naled	0.2	mg/kg	-	-	< 0.2	-
Phorate	0.2	mg/kg	-	-	< 0.2	-
Ronnel	0.2	mg/kg	-	-	< 0.2	-
Tokuthion	0.2	mg/kg	-	-	< 0.2	-
Trichloronate	0.2	mg/kg	-	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	-	101	-
% Moisture	0.1	%	12	36	41	33
Heavy Metals (7)						
Arsenic	2.0	mg/kg	2.0	2.5	2.5	4.3
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	14	78	160	99
Copper	5	mg/kg	19	22	31	27
Lead	5	mg/kg	7.2	< 5	< 5	9.4
Nickel	5	mg/kg	8.3	31	36	34
Zinc	5	mg/kg	57	130	110	190
Heavy Metals						

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia  
Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia  
Telephone: (03) 9564 7055  
Fax: (03) 9564 7190  
Email: mgt@mgtenv.com.au

Coffey Geotechnics Pty Ltd Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Client Sample ID		SS33	SS34	SS35	SS37
	Lab Number		M08-JL01292	M08-JL01293	M08-JL01294	M08-JL01295
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

**Coffey Geotechnics Pty Ltd**

Coffey Geotechnics Pty Ltd	Client Sample ID		SS38	SS39	SS40	TRIP SPK 269
Unit 1 18 Hurley Dve	Lab Number		M08-JL01296	M08-JL01297	M08-JL01298	M08-JL01300
Coffs Harbour	Matrix		Soil	Soil	Soil	Soil
NSW 2450	Sample Date		Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units				
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC	20	mg/kg	-	-	< 20	-
TRH C10-C14 Fraction by GC	50	mg/kg	-	-	< 50	-
TRH C15-C28 Fraction by GC	100	mg/kg	-	-	< 100	-
TRH C29-C36 Fraction by GC	100	mg/kg	-	-	< 100	-
Monocyclic Aromatic Hydrocarbons						
Benzene	0.05	mg/kg	-	-	< 0.05	120
Toluene	0.05	mg/kg	-	-	< 0.05	110
Ethylbenzene	0.05	mg/kg	-	-	< 0.05	110
Xylenes(ortho.meta and para)	0.05	mg/kg	-	-	< 0.05	120
Fluorobenzene (surr.)	1	%	-	-	100	130
% Moisture	0.1	%	28	46	32	-
Heavy Metals (7)						
Arsenic	2.0	mg/kg	2.5	2.4	< 2	-
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chromium	5	mg/kg	83	76	87	-
Copper	5	mg/kg	15	28	10	-
Lead	5	mg/kg	< 5	8.0	< 5	-
Nickel	5	mg/kg	25	30	18	-
Zinc	5	mg/kg	63	140	37	-
Heavy Metals						
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-

COMMENTS:

MGT Report No. 229794  
Page 27 of 45

Coffey Geotechnics Pty Ltd

Client Sample ID		TRIP SPK 248	QC1	QC2	QC4
Unit 1 18 Hurley Dve	Lab Number	M08-JL01301	M08-JL01302	M08-JL01303	M08-JL01304
Coffs Harbour	Matrix	Soil	Soil	Soil	Soil
NSW 2450	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	LOR	Units			
<b>Total Recoverable Hydrocarbons</b>					
TRH C6-C9 Fraction by GC	20	mg/kg	-	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	-	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	-	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	-	< 100	< 100
<b>Monocyclic Aromatic Hydrocarbons</b>					
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toluene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	83	108	82
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	0.1	mg/kg	-	< 0.1	-
Acenaphthylene	0.1	mg/kg	-	< 0.1	-
Anthracene	0.1	mg/kg	-	< 0.1	-
Benz(a)anthracene	0.1	mg/kg	-	< 0.1	-
Benzo(a)pyrene	0.1	mg/kg	-	< 0.1	-
Benzo(b)fluoranthene	0.1	mg/kg	-	< 0.1	-
Benzo(g,h,i)perylene	0.1	mg/kg	-	< 0.1	-
Benzo(k)fluoranthene	0.1	mg/kg	-	< 0.1	-
Chrysene	0.1	mg/kg	-	< 0.1	-
Dibenz(a,h)anthracene	0.1	mg/kg	-	< 0.1	-
Fluoranthene	0.1	mg/kg	-	< 0.1	-
Fluorene	0.1	mg/kg	-	< 0.1	-
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	-	< 0.1	-
Naphthalene	0.1	mg/kg	-	< 0.1	-
Phenanthrene	0.1	mg/kg	-	< 0.1	-
Pyrene	0.1	mg/kg	-	< 0.1	-
Total PAH	0.1	mg/kg	-	< 0.1	-
Chrysene-d12 (surr.)	1	%	-	84	-
2-Fluorobiphenyl (surr.)	1	%	-	112	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>TRIP SPK 248</b>	<b>QC1</b>	<b>QC2</b>	<b>QC4</b>
	<b>Lab Number</b>		<b>M08-JL01301</b>	<b>M08-JL01302</b>	<b>M08-JL01303</b>	<b>M08-JL01304</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
<b>Organochlorine Pesticides</b>						
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
Chlordane	0.1	mg/kg	-	< 0.1	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxophene	0.1	mg/kg	-	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	-	76	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	71	-	-
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>TRIP SPK 248</b>	<b>QC1</b>	<b>QC2</b>	<b>QC4</b>
	<b>Lab Number</b>		<b>M08-JL01301</b>	<b>M08-JL01302</b>	<b>M08-JL01303</b>	<b>M08-JL01304</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>	<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl azinphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
Ronnel	0.2	mg/kg	-	< 0.2	-	-
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	90	-	-
% Moisture	0.1	%	-	40	41	13
<b>Heavy Metals (7)</b>						
Arsenic	2.0	mg/kg	-	< 2	< 2	< 2
Cadmium	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	-	62	8.3	11
Copper	5	mg/kg	-	8.3	< 5	14
Lead	5	mg/kg	-	< 5	< 5	13
Nickel	5	mg/kg	-	28	27	7.4
Zinc	5	mg/kg	-	65	51	54
<b>Heavy Metals</b>						

COMMENTS:

COMMENTS:

**Unit 1 18 Hurley Dve  
Coffs Harbour  
NSW 2450**

COMMENTS:



**Coffey Geotechnics Pty Ltd**

**Unit 1 18 Hurley Dve  
 Coffs Harbour  
 NSW 2450**

Client Sample ID		WB1
Lab Number		M08-JL01299
Matrix		Water
Sample Date		Jun 25, 2008
Analysis Type	LOR	Units
<b>Total Recoverable Hydrocarbons</b>		
TRH C6-C9 Fraction by GC	0.02	mg/L
TRH C10-C14 Fraction by GC	0.05	mg/L
TRH C15-C28 Fraction by GC	0.1	mg/L
TRH C29-C36 Fraction by GC	0.1	mg/L
<b>Monocyclic Aromatic Hydrocarbons</b>		
Benzene	0.001	mg/L
Toluene	0.001	mg/L
Ethylbenzene	0.001	mg/L
Xylenes(ortho.meta and para)	0.001	mg/L
Fluorobenzene (surr.)	1	%
<b>Polycyclic Aromatic Hydrocarbons</b>		
Acenaphthene	0.001	mg/L
Acenaphthylene	0.001	mg/L
Anthracene	0.001	mg/L
Benz(a)anthracene	0.001	mg/L
Benzo(a)pyrene	0.001	mg/L
Benzo(b)fluoranthene	0.001	mg/L
Benzo(g,h,i)perylene	0.001	mg/L
Benzo(k)fluoranthene	0.001	mg/L
Chrysene	0.001	mg/L
Dibenz(a,h)anthracene	0.001	mg/L
Fluoranthene	0.001	mg/L
Fluorene	0.001	mg/L
Indeno(1,2,3-cd)pyrene	0.001	mg/L
Naphthalene	0.001	mg/L
Phenanthrene	0.001	mg/L
Pyrene	0.001	mg/L
Total PAH	0.001	mg/L
Chrysene-d12 (surr.)	1	%
2-Fluorobiphenyl (surr.)	1	%

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>WB1</b>
	<b>Lab Number</b>		<b>M08-JL01299</b>
	<b>Matrix</b>		<b>Water</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>	
<b>Organochlorine Pesticides</b>			
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
Chlordane	0.0005	mg/L	< 0.0005
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxophene	0.0005	mg/L	< 0.0005
Dibutylchloroendate (surr.)	1	%	97
Tetrachloro-m-xylene (surr.)	1	%	118
<b>Organophosphorous Pesticides</b>			
Bolstar	0.002	mg/L	< 0.002
Chlorpyrifos	0.002	mg/L	< 0.002
Coumaphos	0.002	mg/L	< 0.002
Demeton-O	0.002	mg/L	< 0.002

COMMENTS:

<b>Coffey Geotechnics Pty Ltd</b>  <b>Unit 1 18 Hurley Dve</b> <b>Coffs Harbour</b> <b>NSW 2450</b>	<b>Client Sample ID</b>		<b>WB1</b>
	<b>Lab Number</b>		<b>M08-JL01299</b>
	<b>Matrix</b>		<b>Water</b>
	<b>Sample Date</b>		<b>Jun 25, 2008</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>	
Diazinon	0.002	mg/L	< 0.002
Dichlorvos	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
Ethion	0.002	mg/L	< 0.002
Ethoprop	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Merphos	0.002	mg/L	< 0.002
Methyl azinphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Naled	0.002	mg/L	< 0.002
Phorate	0.002	mg/L	< 0.002
Ronnel	0.002	mg/L	< 0.002
Tokuthion	0.002	mg/L	< 0.002
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	101
<b>Heavy Metals (7)</b>			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Nickel	0.001	mg/L	< 0.001
Zinc	0.001	mg/L	< 0.001
<b>Heavy Metals</b>			
Mercury	0.0001	mg/L	< 0.0001

COMMENTS:

Coffey Geotechnics Pty Ltd	Client Sample ID	SS01	SS01	RPD	SPIKE	LCS	Method blank
Unit 1 18 Hurley Dve	Lab Number	08-JL01264	08-JL01264	08-JL01264	08-JL01264	Batch	Batch
Coffs Harbour	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
NSW 2450	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units			% RPD	% Recovery	% Recovery	mg/L
Total Recoverable Hydrocarbons							
TRH C6-C9 Fraction by GC		-	-	< 1	88	93	< 0.02
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	75	-	-
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-	-	-
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-	-	-
Monocyclic Aromatic Hydrocarbons							
Benzene		< 0.05	< 0.05	< 1	75	-	-
Toluene		< 0.05	< 0.05	< 1	84	-	-
Ethylbenzene		< 0.05	< 0.05	< 1	97	-	-
Xylenes(ortho.meta and para)		< 0.05	< 0.05	< 1	94	-	-
Polycyclic Aromatic Hydrocarbons							
Acenaphthene		< 0.1	< 0.1	< 1	89	111	< 0.02
Acenaphthylene		< 0.1	< 0.1	< 1	84	115	< 0.02
Anthracene		< 0.1	< 0.1	< 1	76	105	< 0.02
Benz(a)anthracene		< 0.1	< 0.1	< 1	106	116	< 0.02
Benzo(a)pyrene		< 0.1	< 0.1	< 1	84	124	< 0.02
Benzo(b)fluoranthene		< 0.1	< 0.1	< 1	72	95	< 0.02
Benzo(g,h,i)perylene		< 0.1	< 0.1	< 1	86	117	< 0.02
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	72	98	< 0.02
Chrysene		< 0.1	< 0.1	< 1	96	113	< 0.02
Dibenz(a,h)anthracene		< 0.1	< 0.1	< 1	77	114	< 0.02
Fluoranthene		< 0.1	< 0.1	< 1	90	111	< 0.02
Fluorene		< 0.1	< 0.1	< 1	78	114	< 0.02
Indeno(1,2,3-cd)pyrene		< 0.1	< 0.1	< 1	86	123	< 0.02
Naphthalene		< 0.1	< 0.1	< 1	74	107	< 0.02
Phenanthrene		< 0.1	< 0.1	< 1	80	114	< 0.02
Pyrene		< 0.1	< 0.1	< 1	91	117	< 0.02
Organochlorine Pesticides							
4,4'-DDD		< 0.05	< 0.05	< 1	-	-	-

COMMENTS:

Coffey Geotechnics Pty Ltd  
 Unit 1 18 Hurley Dve  
 Coffs Harbour  
 NSW 2450

Client Sample	SS01	SS01	RPD	SPIKE
Lab Number	08-JL01264	08-JL01264	08-JL01264	08-JL01264
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units		% RPD	% Recovery
Organochlorine Pesticides				
4,4'-DDE	< 0.05	< 0.05	< 1	-
4,4'-DDT	< 0.05	< 0.05	< 1	-
a-BHC	< 0.05	< 0.05	< 1	-
Aldrin	< 0.05	< 0.05	< 1	-
b-BHC	< 0.05	< 0.05	< 1	-
Chlordane	< 0.1	< 0.1	< 1	-
d-BHC	< 0.05	< 0.05	< 1	-
Dieldrin	< 0.05	< 0.05	< 1	-
Endosulfan I	< 0.05	< 0.05	< 1	-
Endosulfan II	< 0.05	< 0.05	< 1	-
Endosulfan sulphate	< 0.05	< 0.05	< 1	-
Endrin	< 0.05	< 0.05	< 1	-
Endrin aldehyde	< 0.05	< 0.05	< 1	-
Endrin ketone	< 0.05	< 0.05	< 1	-
g-BHC (Lindane)	< 0.05	< 0.05	< 1	-
Heptachlor	< 0.05	< 0.05	< 1	-
Heptachlor epoxide	< 0.05	< 0.05	< 1	-
Hexachlorobenzene	< 0.05	< 0.05	< 1	-
Methoxychlor	< 0.05	< 0.05	< 1	-
Toxophene	< 0.1	< 0.1	< 1	-
Organophosphorous Pesticides				
Bolstar	< 0.2	< 0.2	< 1	-
Chlorpyrifos	< 0.2	< 0.2	< 1	-
Coumaphos	< 0.2	< 0.2	< 1	-
Demeton-O	< 0.2	< 0.2	< 1	-
Diazinon	< 0.2	< 0.2	< 1	104
Dichlorvos	< 0.2	< 0.2	< 1	-
Disulfoton	< 0.2	< 0.2	< 1	-

COMMENTS:

Coffey Geotechnics Pty Ltd  
 Unit 1 18 Hurley Dve  
 Coffs Harbour  
 NSW 2450

Client Sample	SS01	SS01	RPD	SPIKE
Lab Number	08-JL01264	08-JL01264	08-JL01264	08-JL01264
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units		% RPD	% Recovery
Organophosphorous Pesticides				
Ethion	< 0.2	< 0.2	< 1	120
Ethoprop	< 0.2	< 0.2	< 1	-
Fenitrothion	< 0.2	< 0.2	< 1	125
Fensulfothion	< 0.2	< 0.2	< 1	-
Fenthion	< 0.2	< 0.2	< 1	-
Merphos	< 0.2	< 0.2	< 1	-
Methyl azinphos	< 0.2	< 0.2	< 1	-
Methyl parathion	< 0.2	< 0.2	< 1	81
Mevinphos	< 0.2	< 0.2	< 1	104
Naled	< 0.2	< 0.2	< 1	-
Phorate	< 0.2	< 0.2	< 1	-
Ronnel	< 0.2	< 0.2	< 1	-
Tokuthion	< 0.2	< 0.2	< 1	-
Trichloronate	< 0.2	< 0.2	< 1	-
Heavy Metals (7)				
Arsenic	< 2	< 2	< 1	85
Cadmium	< 0.5	< 0.5	< 1	84
Chromium	54	52	2.4	90
Copper	15	14	2.9	83
Lead	19	19	3.3	76
Nickel	39	33	17	81
Zinc	170	160	4.7	79

COMMENTS:

Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour  NSW 2450	Client Sample ID	SS12	SS12	RPD	SPIKE
	Lab Number	08-JL01274	08-JL01274	08-JL01274	08-JL01274
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units			% RPD	% Recovery
Heavy Metals (7)					
Arsenic		< 2	< 2	< 1	-
Cadmium		< 0.5	< 0.5	< 1	83
Chromium		35	35	< 1	92
Copper		< 5	6.3	< 1	78
Lead		< 5	< 5	< 1	77
Nickel		29	35	18	86
Zinc		150	150	< 1	122
Heavy Metals					
Mercury		< 0.1	< 0.1	< 1	-

COMMENTS:

COMMENTS:



Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour  NSW 2450	Client Sample ID	SS27	SS27	RPD	SPIKE	LCS	Method blank
	Lab Number	08-JL01287	08-JL01287	08-JL01287	08-JL01287	Batch	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units			% RPD	% Recovery	% Recovery	mg/L
Organochlorine Pesticides							
4.4'-DDD		< 0.05	< 0.05	< 1	122	93	< 0.005
4.4'-DDE		< 0.05	< 0.05	< 1	116	102	< 0.005
4.4'-DDT		< 0.05	< 0.05	< 1	127	96	< 0.005
a-BHC		< 0.05	< 0.05	< 1	113	88	< 0.005
Aldrin		< 0.05	< 0.05	< 1	119	105	< 0.005
b-BHC		< 0.05	< 0.05	< 1	108	82	< 0.005
Chlordane		< 0.1	< 0.1	< 1	71	-	< 0.01
d-BHC		< 0.05	< 0.05	< 1	117	92	< 0.005
Dieldrin		< 0.05	< 0.05	< 1	112	103	< 0.005
Endosulfan I		< 0.05	< 0.05	< 1	98	107	< 0.005
Endosulfan II		< 0.05	< 0.05	< 1	113	102	< 0.005
Endosulfan sulphate		< 0.05	< 0.05	< 1	120	103	< 0.005
Endrin		< 0.05	< 0.05	< 1	126	105	< 0.005
Endrin aldehyde		< 0.05	< 0.05	< 1	112	100	< 0.005
Endrin ketone		< 0.05	< 0.05	< 1	126	112	< 0.005
g-BHC (Lindane)		< 0.05	< 0.05	< 1	103	90	< 0.005
Heptachlor		< 0.05	< 0.05	< 1	124	103	< 0.005
Heptachlor epoxide		< 0.05	< 0.05	< 1	104	108	< 0.005
Hexachlorobenzene		< 0.05	< 0.05	< 1	101	91	< 0.005
Methoxychlor		< 0.05	< 0.05	< 1	129	99	< 0.005
Toxophene		< 0.1	< 0.1	< 1	89	-	< 0.01
Organophosphorous Pesticides							
Bolstar		< 0.2	< 0.2	< 1	-	-	< 0.002
Chlorpyrifos		< 0.2	< 0.2	< 1	-	-	< 0.002
Coumaphos		< 0.2	< 0.2	< 1	-	-	< 0.002
Demeton-O		< 0.2	< 0.2	< 1	-	-	< 0.002
Diazinon		< 0.2	< 0.2	< 1	79	86	< 0.002
Dichlorvos		< 0.2	< 0.2	< 1	-	-	< 0.002

COMMENTS:

Analysis Type
---------------

Organophosphorous Pesticides

Disulfoton

Ethion

Ethoprop

Fenitrothion

Fensulfothion

Fenthion
----------

Merphos

Methyl azinphos

Methyl parathion

Mevinphos

Naled	
-------	--

Phorate

Ronnel

Tokuthion

Trichloronate

[illegible]

COMMENTS:

Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour  NSW 2450	Client Sample ID	SS34	SS34	RPD	SPIKE
	Lab Number	08-JL01293	08-JL01293	08-JL01293	08-JL01293
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units			% RPD	% Recovery
Heavy Metals					
Mercury		< 0.1	-	< 1	73

COMMENTS:

Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour  NSW 2450	Client Sample ID	WB1	WB1	RPD	SPIKE	LCS	Method blank
	Lab Number	08-JL01299	08-JL01299	08-JL01299	08-JL01299	Batch	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
	Matrix	Water	Water	Water	Water	Water	Water
	Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Analysis Type	Units			% RPD	% Recovery	% Recovery	mg/L
Heavy Metals (7)							
Arsenic		< 0.001	< 0.001	< 1	101	97	< 0.1
Cadmium		< 0.0002	< 0.0002	< 1	104	105	< 0.5
Chromium		< 0.001	< 0.001	< 1	100	104	< 0.001
Copper		< 0.001	< 0.001	< 1	103	101	< 1
Lead		< 0.001	< 0.001	< 1	98	97	< 0.001
Nickel		< 0.001	< 0.001	< 1	103	103	< 0.001
Zinc		< 0.001	< 0.001	< 1	109	100	< 1

COMMENTS:

**CUSTOMER CENTRIC - ANALYTICAL CHEMISTS**

**FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION**

**Laboratory Report No:** E039148  
**Client Name:** Coffey Geotechnics Pty Ltd  
**Client Reference:** GEOTALST03192AA  
**Contact Name:** Andrew Ballard  
**Chain of Custody No:** 13361  
**Sample Matrix:** SOIL

Cover Page 1 of 3  
plus Sample Results

**Date Received:** 13/08/2008  
**Date Reported:** 21/08/2008

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occurred within the agreed settlement period.

**QUALITY ASSURANCE CRITERIA**

**Accuracy:** matrix spike: 1 in first 5-20, then 1 every 20 samples  
lcs, crm, method: 1 per analytical batch  
surrogate spike: addition per target organic method

**Precision:** laboratory duplicate: 1 in first 5-10, then 1 every 10 samples  
laboratory triplicate: re-extracted & reported when duplicate RPD values exceed acceptance criteria

**Holding Times:** soils, waters: Refer to LabMark Preservation & THT table  
VOC's 14 days water / soil  
VAC's 7 days water or 14 days acidified  
VAC's 14 days soil  
SVOC's 7 days water, 14 days soil  
Pesticides 7 days water, 14 days soil  
Metals 6 months general elements  
Mercury 28 days

**Confirmation:** target organic analysis: GC/MS, or confirmatory column

**Sensitivity:** EQL: Typically 2-5 x Method Detection Limit (MDL)

**QUALITY CONTROL**

**GLOBAL ACCEPTANCE CRITERIA (GAC)**

**Accuracy:** spike, lcs, crm general analytes 70% - 130% recovery  
surrogate: phenol analytes 50% - 130% recovery  
organophosphorous pesticide analytes 60% - 130% recovery  
phenoxy acid herbicides, organotin 50% - 130% recovery

anion/cation bal: +/- 10% (0-3 meq/l),  
+/- 5% (>3 meq/l)

**Precision:** method blank: not detected >95% of the reported EQL  
duplicate lab 0-30% (>10xEQL), 0-75% (5-10xEQL)  
RPD (metals): 0-100% (<5xEQL)  
duplicate lab 0-50% (>10xEQL), 0-75% (5-10xEQL)  
RPD: 0-100% (<5xEQL)

**QUALITY CONTROL**

**ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)**

**Accuracy:** spike, lcs, crm analyte specific recovery data  
surrogate: <3xsd of historical mean

**Uncertainty:** spike, lcs: measurement calculated from historical analyte specific control charts

**RESULT ANNOTATION**

Data Quality Objective	s: matrix spike recovery	p: pending	bcs: batch specific lcs
Data Quality Indicator	d: laboratory duplicate	lcs: laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t: laboratory triplicate	crm: certified reference material	
not applicable	r: RPD relative % difference	mb: method blank	

David Burns  
Quality Control (Report signatory)  
david.burns@labmark.com.au

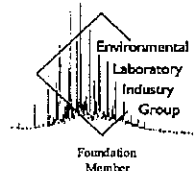
Geoff Weir  
Authorising Chemist (NATA signatory)  
geoff.weir@labmark.com.au

Simon Mills  
Authorising Chemist (NATA signatory)  
simon.mills@labmark.com.au

This document is issued in accordance with NATA's accreditation requirements.

© copyright 2000





Laboratory Report: E039148

Cover Page 2 of 3

## NEPC GUIDELINE COMPLIANCE - DQO

### 1. GENERAL

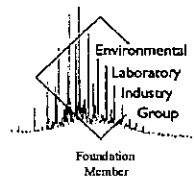
- A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.
- B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.
- C. Laboratory QA/QC samples are specific to this project.
- D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at [www.nata.asn.au](http://www.nata.asn.au).
- E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.
- F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.
- G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomalous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.
- H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.
- I. LabMark shall maintain an official copy of this Certificate of Analysis for all traceable reference purposes.

### 2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

- A. SRN issued to client upon sample receipt & login verification.
- B. Preservation & sampling date details specified on COC and SRN, unless noted.
- C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

### 3. NATA ACCREDITED METHODS

- A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).
- B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.
- C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.



Laboratory Report: E039148

Cover Page 3 of 3

#### 4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Acid extractable metals (M7)	2	0	0%	0	0	0%
2	Acid extractable mercury	2	0	0%	0	0	0%
3	Moisture	2	--	--	--	--	--

#### GLOSSARY:

- #d number of discrete duplicate extractions/analyses performed.  
 %d-ratio NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).  
 #t number of triplicate extractions/analyses performed.  
 #s number of spiked samples analysed.  
 %s-ratio USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

#### 5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

- A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, Corporate Site No. 13535, unless indicated below.  
 B. Mercury was analysed outside THT, please refer to SRN.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark **DOES NOT** report **NON-RELEVANT BATCH QA/QC** data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

Laboratory Report No: E039148  
 Client Name: Coffey Geotechnics Pty Ltd  
 Contact Name: Andrew Ballard  
 Client Reference: GEOTALST03192AA

Page: 1 of 3  
 plus cover page  
 Date: 21/08/08

Final  
**Certificate**  
 of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		171163	171164	crm	lcs	mb					
Sample Identification		QC3	QC5	QC	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		25/6/08	25/6/08	--	--	--					
Laboratory Extraction (Preparation) Date		19/8/08	19/8/08	19/8/08	19/8/08	19/8/08					
Laboratory Analysis Date		19/8/08	19/8/08	19/8/08	19/8/08	19/8/08					
<b>Method : E022.2</b>											
<b>Acid extractable metals (M7)</b>		<b>EQL</b>									
Arsenic	1	1	<1	100%	100%	<1					
Cadmium	0.1	<0.1	<0.1	95%	99%	<0.1					
Chromium	1	15	7	107%	112%	<1					
Copper	2	12	11	96%	104%	<2					
Nickel	1	11	4	101%	102%	<1					
Lead	2	5	10	100%	105%	<2					
Zinc	5	45	35	92%	104%	<5					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E039148  
Client Name: Coffey Geotechnics Pty Ltd  
Contact Name: Andrew Ballard  
Client Reference: GEOTALST03192AA

Page: 2 of 3  
plus cover page  
Date: 21/08/08

Final  
Certificate  
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		171163	171164	crm	lcs	mb					
Sample Identification		QC3	QC5	QC	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		25/6/08	25/6/08	--	--	--					
Laboratory Extraction (Preparation) Date		19/8/08	19/8/08	19/8/08	19/8/08	19/8/08					
Laboratory Analysis Date		20/8/08	21/8/08	19/8/08	19/8/08	19/8/08					
Method : E026.2											
Acid extractable mercury	EQL										
Mercury	0.05	0.29	0.07	87%	81%	<0.05					

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

**Laboratory Report No:** E039148  
**Client Name:** Coffey Geotechnics Pty Ltd  
**Contact Name:** Andrew Ballard  
**Client Reference:** GEOTALST03192AA

**Page:** 3 of 3  
plus cover page  
**Date:** 21/08/08

Final  
**Certificate**  
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		171163	171164								
Sample Identification		QC3	QC5								
Depth (m)		--	--								
Sampling Date recorded on COC		25/6/08	25/6/08								
Laboratory Extraction (Preparation) Date		19/8/08	19/8/08								
Laboratory Analysis Date		20/8/08	20/8/08								
<b>Method : E005.2</b>											
<b>Moisture</b>	<b>EQL</b>										
Moisture	--	32	9								

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Sample  
**Receipt**  
Notice (SRN) for **E039148**



Quality, Service, Support

Client Details		Laboratory Reference Information	
<b>Client Name:</b> Coffey Geotechnics Pty Ltd <b>Client Phone:</b> 02 6651 3213 <b>Client Fax:</b> 02 6651 5194 <b>Contact Name:</b> Andrew Ballard <b>Contact Email:</b> andrew_ballard@coffey.com <b>Client Address:</b> PO Box 704 Coffs Harbour NSW 2450  <b>Project Name:</b> GEOTALST03192AA <b>Project Number:</b> - Not provided - <b>CoC Serial Number:</b> 13361 <b>Purchase Order:</b> - Not provided - <b>Surcharge:</b> No surcharge applied (results by 6:30pm on due date) <b>Sample Matrix:</b> SOIL		<b>Please have this information ready when contacting Labmark.</b>  <b>Laboratory Report:</b> <b>E039148</b> <b>Quotation Number:</b> - Not provided, standard prices apply <b>Laboratory Address:</b> Unit 1, 8 Leighton Pl. Asquith NSW 2077  <b>Phone:</b> 61 2 9476 6533 <b>Fax:</b> 61 2 9476 8219  <b>Sample Receipt Contact:</b> Ros Schacht <b>Email:</b> Ros.Schacht@labmark.com.au <b>Reporting Contact:</b> Geoff Weir <b>Email:</b> geoff.weir@labmark.com.au	
<b>Date Sampled (earliest date):</b> 25/06/2008 <b>Date Samples Received:</b> 13/08/2008 <b>Date Sample Receipt Notice issued:</b> 14/08/2008 <b>Date Preliminary Report Due:</b> 21/08/2008		<b>NATA Accreditation:</b> 13542 <b>TGA GMP License:</b> 185-336 (Sydney) <b>APVMA License:</b> 6105 (Sydney) <b>AQIS Approval:</b> NO356 (Sydney) <b>AQIS Entry Permit:</b> 200521534 (Sydney)	

**Reporting Requirements:** Electronic Data Download required:No

**Invoice Number:** 08EA0213

**Sample Condition:** COC received with samples. Report number and lab ID's defined on COC.  
Samples received in good order .  
Samples received with cooling media: Ice bricks .  
Samples received chilled.  
Security seals not used .  
Sample container & chemical preservation suitable .

**Comments:** Sample date is stated as 25/6/08, please contact the lab if this is not correct. Hg as part of M8 tested outside THT.

**Holding Times:** Date received allows for insufficient time to meet Technical Holding Times.  
Note: There are Samples within this batch that have been received by the laboratory 21 day(s) after Technical Holding Times expire. LabMark cannot guarantee THT compliance, refer to the extraction dates detailed in the sample grid for confirmation.

**Preservation:** Chemical preservation of samples satisfactory for requested analytes.

**Important Notes:**

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur \$5.00/ sample/ 3 months. Additional refrigerated storage shall incur \$30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

**Analysis comments:**

**Subcontracted Analyses:**

**Thank you for choosing Labmark to analyse your project samples.**  
Additional information on [www.labmark.com.au](http://www.labmark.com.au)

Sample  
**Receipt**  
Notice (SRN) for **E039148**



**Quality, Service, Support**

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis															
No.	Date	Depth	Client Sample ID	Acid extractable mercury	Acid extractable metals (M7)	Moisture	PREP Not Reported												
171163	25/06		QC3	●	●	●	●												
171164	25/06		QC5	●	●	●	●												
Totals:				2	2	2	2												

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

**Thank you for choosing Labmark to analyse your project samples.**  
Additional information on [www.labmark.com.au](http://www.labmark.com.au)



Sample  
**Receipt**  
Notice (SRN) for **E039148**



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-T_S															
171163	25/06		QC3	●															
171164	25/06		QC5	●															
Totals:				2															

Thank you for choosing Labmark to analyse your project samples.  
Additional information on [www.labmark.com.au](http://www.labmark.com.au)

# Appendix C

## Data Validation Report

## QA/QC DATA VALIDATION REPORT

Job No: GEOTALST03192AA-AC

### I. SAMPLE HANDLING

1. Were the sample **holding times** met?
2. Were the samples in **proper custody** between the field and reaching the laboratory?
3. Were the samples **properly and adequately** preserved?  
*This includes keeping the samples chilled, where applicable.*
4. Were the samples received by the laboratory in good condition?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Sample Handling was:**

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

## II PRECISION / ACCURACY ASSESSMENT

1. Was a NATA registered laboratory used?
2. Did the laboratory perform the requested tests?
3. Were the laboratory methods adopted NATA endorsed?
4. Were the appropriate test procedures followed?
5. Were the reporting limits satisfactory?
6. Was the NATA Seal on the reports?
7. Were the reports signed by an authorised person?

Yes	No (Comment below)
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Precision/Accuracy of the Laboratory Report**

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

### III. FIELD QA/QC

1. **Number of Samples Analysed** Soil: 36

2. **Number of Days of Sampling** Soil: 1

3. **Number and Type of QA/QC Samples Collected:**

	SOIL	WATER
Field Duplicates	4	NA
Field Triplicates	2	NA
Trip Blanks	1	NA
Wash Blanks	NA	1
Other (Trip spike)	NA	1

4. **Field Duplicates**

A. Were an Adequate Number of field duplicates collected?

B. Were RPDs within Control Limits?

a. Organics (< 50 %)

b. Metals/Inorganics (< 50 %)

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. **TRIP BLANKS**

A. Were an Adequate Number of trip blanks collected?

B. Were the Trip Blanks free of contaminants?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

## 6. WASH BLANKS

A. Were an adequate number of Wash Blanks collected?

B. Were the Wash Blanks free of contaminants?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Comments:

The comparison of the test results for the primary and field duplicate samples and primary and field triplicate samples showed RPDs above the control limit of 50% for duplicate pair SS33 / QC4 which recorded RPDs of lead 57% and pair SS34 / QC6 recorded RPDs of copper 67%. For the two triplicate samples analysed showed RPDs above the control limit for triplicate pair SS19 / QC3 for chromium 51% and nickel 74%. For triplicate pair SS33 / QC5 for chromium 67%, copper 53% and nickel 70%.

These results are considered to be due to the variable low level concentrations of metals in the surface material analysed, and the heterogeneous nature of the soil. It has not affected the useability of the data given the low concentrations of metals recorded.

Inconsistent results were found between duplicate pair SS33 / QC4 for arsenic; duplicate pair SS34 / QC6 for arsenic and lead; triplicate pair SS33 / QC5 for arsenic and mercury; triplicate pair SS19 / QC3 for arsenic, copper, lead and mercury. These inconsistent results were attributed to the contaminants been only slightly above the laboratories level of reporting (LOR) and the different LOR used by the two laboratories.

All other RPDs for soil samples were within the control limit of 50%. One wash blank sample, one trip spike and trip blank samples were also analysed. The results of these analyses were also within acceptable limits.

Field QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory

#### IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

##### 1. Types and Number of QA/QC Samples

	SOIL	WATER
Method Blanks	4	1
Matrix Spikes	7	1
Laboratory Duplicates	7	1
Surrogates	83	NA

2. Were the laboratory blanks/reagents blanks free of contamination?

3. Were the spike recoveries within laboratory control limits?

a. Organics (60% to 130%)

b. Metals/Inorganic (70% to 130%)

4. Were the RPDs of the laboratory duplicates within control limits?

5. Were the surrogate recoveries within control limits?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

The laboratory internal QA/QC was:

☒ Satisfactory

☐ Unsatisfactory

☐ Partially Satisfactory



**V.     DATA USABILITY**

- |    |  |                                     |
|----|--|-------------------------------------|
| 1. | Data Directly Usable                                     | <input checked="" type="checkbox"/> |
| 2. | Data Usable with the following corrections/modifications | <input type="checkbox"/>            |
| 3. | Data Not Usable.   | <input type="checkbox"/>            |

QA/QC Report Prepared by

Joel Parkin