

**DM & RD DOSSOR**

Proposed Residential Subdivision

1 Survey Street, Lennox Head NSW

**ENVIRONMENTAL SITE ASSESSMENT**

NR1059/3-AE

11 September 2006



NR1059/3-AE ELC  
11 September 2006

SAKE Development Pty Ltd  
Suite 11, 340 Darling Street  
BALMAIN NSW 2041

Attention: Ms Sarah Kelly

Dear Madam,

**RE: ENVIRONMENTAL SITE ASSESSMENT AT 1 SURVEY STREET, LENNOX HEAD  
NSW**

Coffey Geosciences Pty Ltd is pleased to present our site contamination assessment for the above site.

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

We trust that this report meets with your requirements. If you require further information please contact the undersigned in our Coffs Harbour office.

**For and on behalf of**

**COFFEY GEOSCIENCES PTY LTD**



**DAVID BARKER**

**Senior Geotechnical Engineer**

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**Important Information About Your Coffey Environmental Site Assessment**

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## **1. INTRODUCTION**

### **1.1 General**

Coffey Geosciences Pty Ltd (Coffey) was commissioned by Mr David Dossor to carry out an Environmental Site Assessment (ESA) at 1 Survey Street (Lot 2 DP622475), Lennox Head NSW. The work was carried out in accordance with the relevant sections of our proposal NR1059/3-AA, dated 2 June 2006. This report presents the results of the ESA.

The site is approximately 9.9ha in area and is proposed to be developed for a residential subdivision. We understand that the ESA was required by the Director General of the Department of Planning under *Section 75F of the Environmental Planning and Assessment Act 1979*.

The objective of the ESA was to assess the potential for contamination to exist on the site from previous and current uses, and to provide recommendations on the need for remediation if required.

### **1.2 Scope of Work**

To meet the above objective, the following scope of work was carried out:

- A site history and desk study to identify potential Areas of Environmental Concern (AECs) and Chemicals of Concern (COCs) including a review of previous site ownership, Council records, aerial photographs, published geological maps, Department of Natural Resources groundwater bore data, and Department of Environment and Conservation (DEC) records for listing of the site.
- Collecting soil samples from 29 locations. The samples were collected from within the upper 0.2m of the soil profile;
- Laboratory analysis of soil samples for a suite of chemicals of concern including Heavy Metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury), Organochlorine and Organophosphorous Pesticides (OCP/OPP), Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl-benzene and Xylene (BTEX) and Poly-Aromatic Hydrocarbons (PAH);
- Grid sampling around G1, which was identified as having elevated concentrations of zinc in the initial sampling above. Sampling comprised the collection of 4 samples at 5m from G1, 8 samples at 10m to 14m from G1, and 16 samples at 20m to 28m from G1;
- Analysis of the samples near G1 for 8 heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, mercury and zinc), and TCLP of 8 heavy metals;
- Preparation of this report summarising the site history, results of fieldwork, presentation and interpretation of analytical results and findings, comparing chemical concentrations to applicable guidelines, and making recommendations on the need for further investigation and / or remediation and management.

## **2. SITE LANDUSE AND DESCRIPTION**

### **2.1 Site Location and Landuse**

The site is located at 1 Survey Street, Lennox Head NSW and is approximately 9.9ha in size. The site is identified as Lot 2 DP622475, Local Government Area of Ballina, County of Rous, and Parish of Ballina.

The site is currently used for cattle grazing, and is generally vacant.

## 2.2 Local Geology, Hydrogeology, and Groundwater Use

The geology map for Tweed Heads indicates that the site locality is underlain by either Lismore basalt, or Quaternary Alluvium comprising of sands, silts, clays and gravels. Previous investigations on the site by Coffey in 1999 and 2002 indicate that the site is underlain by residual basalt soils and basalt.

A search of the NSW Department of Natural Resources groundwater bore data found nine groundwater bores within a 1.5km radius of the site. Table 1 below gives a summary of the groundwater bore data, and the data is presented in Appendix A.

**TABLE 1: SUMMARY OF GROUNDWATER BORE DATA**

Bore Number	Use	Total Depth (m)	Standing Water Level (m)	Water Bearing Zones (m)	Inferred Gradient and Approximate Distance from Site Boundary
GW305989	Domestic Stock	19.0	7.0	18 to 30	Down-gradient 350m
GW043033	Stock	2.4	-	-	Up-gradient 1km
GW043032	Stock	2.4	-	1.8 to 2.4	Up-gradient 750m
GW305380	Monitoring Bore	11.0	3.3	3.3 to 5.5	Up-gradient 1km
GW303566	Domestic	6.0	-	-	Down-gradient 650m
GW303574	Domestic	-	-	-	Down-gradient 650m
GW303540	Domestic	5.6	1.9	-	Down-gradient 750m
GW305518	Domestic	4.0	-	-	Down-gradient 800m
GW305574	Domestic	6.0	2.5	-	Down-gradient 650m

## 3. SITE HISTORY AND OBSERVATIONS

Information on the site history was obtained from:

- A site walk over by an experienced geotechnician to observe site conditions;
- A historical land title search to review previous landowners and possible past uses of the site;
- Review of aerial photographs;
- A search of NSW DEC records;
- A review of Ballina Shire Council records;
- WorkCover Dangerous Goods Licenses;
- Interviews with available personnel familiar with the history of the site; and
- Collation of the above.

The site history information is presented in Appendix A and a summary is provided below.

### **3.1 Summary of Site History**

#### ***Titles Search***

The site is formed of one lot which was previously three separate lots, namely Lot 8 DP237480 (Lot 8) & Portion 56 (Portion 56) Parish Ballina (which became Lot 1 DP 587685 (Lot 1)) and Lot 61 DP242183 (Lot 61). Lot 8 and Lot 61 were Crown Land until 1911, and Portion 56 was Crown Land until 1902.

Each lot was granted to The Commercial Banking Company of Sydney Limited, and passed on to Edward Henderson, a farmer, in the same year.

In 1972, Lot 8 and Portion 56 became Lot 1, and in 1982 Lot 1 and Lot 62 became the current lot (Lot 2 DP622475).

Until 1972, all three lots had very similar ownership; Edward Henderson (a farmer) until 1954, then Joseph Henderson (farmer), Edward Henderson (picture operator) and Laura Henderson (spinster) until 1962. From 1962 to 1972, all three lots were owned by Jack Easter, a farmer. In 1972, Lot 61 passed over to Cyril Skimmings, an accountant, who owned that lot until 1979. Michael and Wendy Mazzer, bought Lot 61 in 1979, and owned it until 1982.

In 1972, Lot 8 and Portion 56 became Lot 1, and Lot 1 was owned by Stanley Dorbon, a clerk, until 1979. In 1979 Lot 1 became owned by John Gunn, a panel beater, and Alana Gunn. In 1981, Ruth and David Dossor bought Lot 1.

In 1982 all three lots became Lot 2 DP622475, which was owned by David and Ruth Dossor and Michael and Wendy Mazzer. Later in 1982, David and Ruth Dossor became the sole owners, and have remained the site owners until today.

#### ***Aerial Photographs***

Aerial photographs from 1947 to 2004 were viewed. A summary description of the photographs is presented in Table 2 below.

**TABLE 2: SUMMARY OF AERIAL PHOTOGRAPHS**

Date	Description
1947	Site is cleared, with no structures, and appears to be vegetated with grasses.
1958	Site is cleared, with no structures, and appears to be vegetated with grasses.
1967	Site is cleared, with no structures, and appears to be vegetated with long grasses and scattered trees. Nearby development appears to comprise of a few residential buildings.
1979	No structures visible, still generally cleared, but with more trees apparent than in 1967. Sea Breeze Parade and Survey Street have been partially constructed. There appear to be more residences in the surrounding land than in 1967.
1987	No structures visible. It appears to have been cleared since 1979. Sea Breeze Parade and Survey Street are constructed. The land to the north and west of the site appears to have been developed into residential subdivisions, with many more residences apparent.
1997	Site is cleared, with no structures. Surrounding land on northern, western and south-western sides has been developed into residential subdivisions.
2004	Site is cleared with no structures. There are a few scattered trees over the site, and a tree border on the eastern side. The site has been mowed or slashed. Surrounding land appears to be used for residential purposes.

### ***Interviews***

An interview with the site manager, Mr Ian Watson, was carried out on 6 June 2006. Mr Watson indicated he had been managing the site for about 15 years, and had been in the Lennox Head area since 1975. The site has been used for cattle grazing as far back as he could remember. A small shed was constructed in the northern corner of the site, which is used to store mower fuel, and other tools for site maintenance. He stated that they had planted about 6,500 native trees in the area whilst he had been managing the site. He indicated that the surrounding land had been used as farmland, and in the last 20 to 30 years the western side had become residential. Mr Watson did not think there had been any orchard areas in the surrounding land. No wastes are stored on the site, however a council storm-water drain, from Survey Street, runs out onto the site, which has left an approximately 5m long erosion gully which contains some road side rubbish. Mr Watson indicated that he cleaned the rubbish out of the erosion gully relatively frequently.

An interview with the site owner, Mr David Dossor, was carried out on 6 June 2006. Mr Dossor indicated that he and his wife bought the site in 1978. They built a house on a part of the lot which is not part of this investigation. He said they built a small shed on the northern corner of the site, which has a concrete floor, and is used to store a tractor and other site maintenance items. Mr Dossor indicated that no developments had occurred on the site, other than it was mowed every so often.

The site was used for cattle grazing, and he thinks in the past it may have been use to run dairy cattle. The surrounding land is residential on the western side, and farmland on the eastern side. He stated that the site is a valley and a remnant of the original residential subdivision on the western side. He indicated that the council storm-water drain from Survey Street runs onto the site, which has caused a large erosion gully which fills up with rubbish from the road runoff. In times of high rainfall, the storm-water and rubbish runs into the



creek.

### ***WorkCover Dangerous Goods Records***

A search of the Stored Chemical Information Database and microfiche records held by WorkCover did not locate any records pertaining to the site.

### ***NSW EPA records***

There are no EPA notices for the site under the Environmentally Hazardous Chemicals Act (1985) or the Contaminated Land Management Act (1997).

### ***Council Records***

Council records for the site were viewed at Ballina Shire Council on 14 June 2006. The records contained information on Lot Number 40, including house plans, inspectors certificates, termite control certificates, building permits, buildings specifications and building applications. The plans indicated that the house was owned or being built by Mr David Dossor. It is thought that these have been incorrectly filed, and relate to a property that Mr Dossor built on a lot on Survey Street. There was no evidence to suggest that the house was built on Lot 2 DP622475. There appeared to be no references to when the site was used for cattle grazing.

### ***Site Observations***

The site is located on the eastern side of Survey Street, Lennox Head NSW. The site is bounded by existing residential developments on the northern, southern and western sides, and farmland on the eastern side.

Topographically, the site lies in a broad, north-south trending valley, open to the south and bounded on the east west and north sides by low ridges. Hill slopes are generally moderate, varying from 18° to 22° on the upper slopes and 12° to 15° on the lower slopes. The base of the valley is occupied by a broad, gently sloping area with slope angles of typically around 3° to 5°. A small creek runs along the base of the valley, draining to the south.

The site is currently used to graze cattle and is predominately open paddock. A small shed is located on the northern corner of the site, and is approximately 7m by 10m in size, constructed of steel with a concrete floor. The shed is used to store a tractor, drums of oil and pesticides, and paint cans. No stains or spillage s were observed. All items were stored on the concrete floor or on shelves. Thick lantana was noted to be growing on the eastern side of the shed.

Two small areas of woodland were present on the southern side of the site, and on an eastern corner. Localised areas of rock outcrop were noted along the bed of the creek and scattered basalt cobbles were noted on the upper slopes of the ridges.

The gently sloping area between the base of the lower slopes and the creek were noted to be very wet and boggy, with widespread surface water and groundwater seepage.

Localised soil erosion was noted on the western side of the site where a stormwater drain from Survey Street discharges onto the ground. The erosion gully had reached a depth of approximately 2m at the time of the investigation. On the northern-central part of the site, there was a shallow erosion depression where a sewage pump station is located.

#### **4. AREAS OF ENVIRONMENTAL CONCERN & CHEMICALS OF CONCERN**

The site history indicates there is a low risk that the site has been exposed to contamination from current or past uses. On this basis it is considered that the shed located to the north of the site is the main Area of Environmental Concern (AEC). Samples were located to target the shed, and the remainder of the site was checked using a broad grid based sampling pattern.

The NSW EPA (1995) Sampling Design Guidelines recommends that when sampling for large sites (over 5ha) subdivision of the site should occur. In order to characterise a 9.9ha site at least 110 samples would be required over two separate 5ha areas. The site history did not reveal widespread contaminating activities occurring in the past and given that a Phase 1 investigation was being carried out, the number of sampling locations was reduced. The existing shed was targeted as an area of environmental concern with the remainder of the site sampled on an approximate 70m grid (refer Figure 1).

Soil samples were tested from a suite of common contaminants listed below:

- Heavy Metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury);
- Organochlorine Pesticides (OCPs);
- Total Petroleum Hydrocarbons (TPH);
- Benzene, Toluene, Ethyl-benzene, Xylene (BTEX);
- Poly-Aromatic Hydrocarbons (PAH).

#### **5. ASSESSMENT CRITERIA**

For assessing contamination levels in soil in urban settings, the NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme (2<sup>nd</sup> edition) (SAS) and the National Environment Protection (Assessment of Contamination) Measure (NEPM); (Schedule B(1) Guideline on the Investigation Levels for Soil and Groundwater) present health based investigation levels for different landuses (e.g. industrial/commercial, residential, recreational etc.) as well as phytotoxicity based investigation levels. Since the site is to be redeveloped for standard residential use, we have adopted the human health guidelines from Column 1 – Residential with gardens and accessible soil (home grown produce contributing less than 10% fruit and vegetable intake; no poultry), including children's day car centres, preschools and primary schools, or townhouses or villas) – (NEHF A).

Should the soils be removed from the site, a waste classification would be necessary. In order to assess the waste classification for the soils, the results of soil analyses were compared with criteria in the NSW DEC (2004) Environmental Guidelines: Assessment, Classification & Management of Liquid and Non-Liquid Wastes.

The NSW DEC (2004) guidelines provide acceptable contaminant concentrations for liquid and non liquid wastes that are to be disposed of to landfill. These concentrations are divided into the categories inert, solid, and industrial based on total contaminant concentrations and on leachable concentrations using the toxicity characterisation leachability procedure (TCLP). For this assessment we have adopted the criteria for inert waste.

Table 3 below summarises the adopted criteria for this assessment.

The NEPC (1999) National Environment Protection (Assessment of Site Contamination) Measure, Schedule B

(7a) Guideline on Health-Based Investigation Levels, also indicates that the relevance of localised elevated values must be considered and should not be obscured by consideration of only the arithmetic mean of the results. The results must also meet the following criteria:

- The standard deviation of the results must be less than 50% of the human health remediation criteria;
- No single value exceeds 250% of the adopted criteria.

**TABLE 3: SUMMARY OF ADOPTED CRITERIA FOR SOIL**

CONTAMINANT	ADOPTED CRITERIA			
	RESIDENTIAL (NEHF A) <sup>(1)</sup> (mg/kg)	PHYTOTOXICITY <sup>(2)</sup> (mg/kg)	INERT WASTE (mg/kg)	
			SCC <sup>(3)</sup>	TCLP <sup>(3)</sup>
Heavy Metals				
Arsenic	100	20	500	0.5
Cadmium	20	3	100	0.1
Chromium (VI)	100	1	1,900	0.5
Copper	1,000	100	-	-
Lead	300	600	1,500	0.5
Nickel	600	60	1,050	0.2
Mercury	15	1	50	0.02
Zinc	7,000	200	-	-
Notes:				
1. NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme – Column 1 NEHF A (Residential)				
2. NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme – Column 5 Provisional Phytotoxicity Based Investigation Levels				
3. NSW DEC (2004) Assessment, Classification & Management of Liquid & Non-Liquid Wastes – Inert Waste Criteria Table A4				

## 6. PHASE 1 ASSESSMENT

### 6.1 Field investigations

The fieldwork was carried out on the 9 and 12 June 2006 by an experienced Senior Geotechnician from Coffey Northern Rivers office.

A 70m square grid was used, giving 22 systematic sampling locations. Around the small shed on the northern portion of the site, sampling was carried out at seven locations spread between the northern, southern and western sides. Two samples were collected from each location at 0.0m to 0.2m depth.

### **6.1.1 Soil Sampling**

Samples were collected using hand tools. Sampling equipment was decontaminated between sampling locations and a clean pair of latex gloves was used to collect each sample. The soil was placed into clean 250mL glass jars, which were sealed with Teflon lined caps, labelled and placed directly into ice-cooled chests. Duplicate samples were collected for headspace screening tests. The approximate sampling locations are shown on Figure 1.

### **6.1.2 Field Quality Control Procedures**

The field quality control consisted of collection of duplicate soil samples, Dup 1, Dup 3, and Dup 2 from locations A2, H1 and S1.

Samples were transported in ice-cooled chests to MGT Environmental Consulting Laboratory in Melbourne VIC which is NATA accredited for the analysis performed, under chain of custody conditions. A copy of the chain of custody is included in Appendix B.

The sampling equipment was decontaminated between locations using a phosphate free detergent and then rinsed in water. One equipment wash blank was collected.

## **6.2 Phase 1 Laboratory Analytical Programme**

Original laboratory sheets and analytical procedures for the chemical analysis are included in Appendix B. The following analysis schedule was performed:

- 29 soil samples were analysed for heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury);
- 29 soil samples were analysed for OCP/OPP;
- 15 soil samples were analysed for TPH;
- 15 soil samples were analysed for BTEX, and;
- 15 soil samples were analysed for PAH.

## **6.3 Results of Phase 1 Field and Laboratory Investigations**

### **6.3.1 Subsurface Conditions**

Topsoil was encountered at all locations. The topsoil consisted of silty clay, high plasticity, dark grey, dark brown and red-brown, which had a friable consistency.

No unusual odours were noted during sampling of site soils.

### **6.3.2 Soil Contamination**

#### **6.3.2.1 Quality Assurance/Quality Control**

The QA/QC results indicate that the laboratory data is generally useable and adequately represents concentrations of contaminants at the sampling locations with the following comments. Table 4 below compares the primary and duplicate sample results. The relative percentage differences (RPD) were within control limits.

The laboratory conducted internal quality control using laboratory duplicates, spikes and method blanks. The

results are shown with laboratory report sheets in Appendix B. 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.

The field and laboratory methods are considered appropriate and the data obtained is considered to reasonably represent the concentrations at the sampling points at the time of sampling.

It should be noted that the guideline concentration for aromatic hydrocarbons is below the laboratory limit of reporting (LOR). The concentrations for TPH C<sub>6</sub> –C<sub>9</sub> and C<sub>10</sub> –C<sub>36</sub> fractions were below the LOR and the assessment criteria, PID readings were negligible and no odours were noted during fieldwork. It is therefore considered unlikely that aromatic hydrocarbons are present at concentrations that would pose a risk to human health and the environment.



**TABLE 4:**  
**COMPARISON OF DUPLICATE SAMPLE RESULTS**  
**Heavy Metals, TPH, BTEX, PAH, OCP and OPP**  
**(All results in mg/kg)**

	Primary Sample Conc. (mg/kg)	Duplicate Sample Conc. (mg/Kg)	RPD (%)	Primary Sample Conc. (mg/kg)	Duplicate Sample Conc. (mg/Kg)	RPD (%)	Primary Sample Conc. (mg/kg)	Duplicate Sample Conc. (mg/Kg)	RPD (%)
Sample No.	A2	DUP1		S1	DUP2		H1	DUP3	
Depth (m)	0.0-0.2	0.0-0.2		0.0-0.2	0.0-0.2		0.0-0.2	0.0-0.2	
<b>Analyte</b>									
<b>TOTAL PETROLEUM HYDROCARBONS</b>									
C6 - C9 Fraction	<20	<20	ND	<20	<20	ND	-	-	-
C10 - C14 Fraction	<50	<50	ND	<50	<50	ND	-	-	-
C15 - C28 Fraction	<100	<100	ND	<100	<100	ND	-	-	-
C29 - C36 Fraction	<100	<100	ND	<100	<100	ND	-	-	-
<b>BTEX</b>									
Benzene	<0.05	<0.05	ND	<0.05	<0.05	ND	-	-	-
Toluene	<0.05	<0.05	ND	<0.05	<0.05	ND	-	-	-
Ethylbenzene	<0.05	<0.05	ND	<0.05	<0.05	ND	-	-	-
Xylene	<0.05	<0.05	ND	<0.05	<0.05	ND	-	-	-
<b>OLYCYCLIC AROMATIC HYDROCARBONS</b>									
Acenaphthene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Acenaphthylene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Anthracene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Benz(a)anthracene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Benzo(a)pyrene	<0.1	<0.1	ND	ND	<0.1	ND	-	-	-
Benzo(b)fluoranthene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Benzo(g,h,i)pyrene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Benzo(k)fluoranthene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Chrysene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Dibenz(a,h)anthracene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Fluoranthene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Fluorene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Napthalene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Phenanthrene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Pyrene	<0.1	<0.1	ND	<0.1	<0.1	ND	-	-	-
Total PAH	<1.6	<1.6	ND	<1.6	<1.6	ND	-	-	-
<b>ORGANOCHLORINE PESTICIDES</b>									
Aldrin	<0.05	<0.05	ND	<0.05	<0.05	ND	<0.05	<0.05	ND
Dieldrin	<0.05	<0.05	ND	<0.05	<0.05	ND	<0.05	<0.05	ND
Heptachlor epoxide	<0.05	<0.05	ND	<0.05	<0.05	ND	<0.05	<0.05	ND
DDT	<0.05	<0.05	ND	<0.05	<0.05	ND	<0.05	<0.05	ND
DDE	<0.05	<0.05	ND	<0.05	<0.05	ND	<0.05	<0.05	ND
Other OCP	<1.15	<1.15	ND	<1.15	<1.15	ND	<1.15	<1.15	ND
<b>ORGANOPHOSPHOROUS PESTICIDES</b>									
<b>Total</b>	<4.2	<4.2	ND	<4.2	<4.2	ND	<4.2	<4.2	ND
<b>HEAVY METALS</b>									
Arsenic	<2	<2	ND	3.6	2.7	28.57	3	3	0.00
Cadmium	<0.5	<0.5	ND	<0.5	<0.5	ND	<0.5	<0.5	ND
Chromium	72	71	1.40	30	25	18.18	23	22	4.44
Copper	17	17	0.00	31	29	6.67	27	30	10.53
Nickel	8.5	7.5	12.50	15	15	0.00	12	11	8.70
Lead	20	22	9.52	31	24	25.45	21	24	13.33
Zinc	55	67	19.67	120	100	18.18	100	97	3.05
Mercury	<0.1	<0.1	ND	<0.1	<0.1	ND	<0.1	<0.1	ND

Notes:

**Bold**

RPD exceeds control limit of 50%

### 6.3.2.2 Soil Vapour Criteria

For the purposes of this report the generalised soil vapour criteria presented in Table 5 have been used as a guide to the potential for hydrocarbon contamination. These criteria have been developed by Coffey based on our experience (where monitoring for volatile organic compounds has occurred) to assist in the assessment of hydrocarbon contamination levels in soil. It is important to note that these generalised criteria are only a guide and that the PID has a different response to different chemicals.

**TABLE 5: GENERALISED SOIL GAS CRITERIA**

PID reading as ppm isobutylene	Generalised soil gas content description relating to petroleum hydrocarbon contamination
<20 ppm	NEGLIGIBLE
20 to 60 ppm	LOW
60 - 300 ppm	MODERATE
>300 ppm	SIGNIFICANT

Summarised in Table 6 are the results of PID testing of samples collected in the field, with comparison to the above criteria.

**TABLE 6: SUMMARY OF PID RESULTS**

Borehole	Depth	Result	Description	Borehole	Depth	Result	Description
A1	0.0 to 0.2	0.0	Negligible	E4	0.0 to 0.2	0.0	Negligible
A2	0.0 to 0.2	0.0	Negligible	E5	0.0 to 0.2	0.0	Negligible
A3	0.0 to 0.2	0.0	Negligible	F1	0.0 to 0.2	0.0	Negligible
B1	0.0 to 0.2	0.0	Negligible	F2	0.0 to 0.2	0.0	Negligible
B2	0.0 to 0.2	0.0	Negligible	F3	0.0 to 0.2	0.0	Negligible
B3	0.0 to 0.2	0.0	Negligible	F4	0.0 to 0.2	0.0	Negligible
C1	0.0 to 0.2	0.0	Negligible	G1	0.0 to 0.2	0.0	Negligible
C2	0.0 to 0.2	0.0	Negligible	H1	0.0 to 0.2	0.0	Negligible
C3	0.0 to 0.2	0.0	Negligible	S1	0.0 to 0.2	0.0	Negligible
D1	0.0 to 0.2	0.0	Negligible	S2	0.0 to 0.2	0.0	Negligible
D2	0.0 to 0.2	0.0	Negligible	S3	0.0 to 0.2	0.0	Negligible
D3	0.0 to 0.2	0.0	Negligible	S4	0.0 to 0.2	0.0	Negligible
D4	0.0 to 0.2	0.0	Negligible	S5	0.0 to 0.2	0.0	Negligible
E1	0.0 to 0.2	0.0	Negligible	S6	0.0 to 0.2	0.0	Negligible
E2	0.0 to 0.2	0.0	Negligible	S7	0.0 to 0.2	0.0	Negligible
E3	0.0 to 0.2	0.0	Negligible				

As can be seen in Table 6, each sample had a PID reading of 0.0, which is negligible. No odours were noted

in the samples.

#### **6.3.2.3 Comparison of Results to Soil Investigation Levels**

Individual samples were sent to MGT Environmental Consulting Laboratory, a NATA accredited chemical laboratory, under chain of custody conditions.

Each sample was tested for heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury) and OCP and OPP. 15 samples were selected for TPH, BTEX and PAH testing. The results of the laboratory testing are included in Appendix B and are summarised in Tables 7 and 8.





TABLE 7:  
SUMMARY OF LABORATORY RESULTS FOR SOIL SAMPLES  
Heavy Metals, TPH, BTEX, PAH, OCP and OPP

(All results in mg/kg)

Sample ID	THRESHOLD CONCENTRATIONS		A2	B3	C1	D2	E3	E5	F2	F4	S1	S2	S3	S4	S5	S6	S7
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	13-Jun-2006	13-Jun-2006	13-Jun-2006	13-Jun-2006	13-Jun-2006	13-Jun-2006	13-Jun-2006
Depth (m)			0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
HEAVY METALS																	
Arsenic	100 <sup>1</sup>	20 <sup>2</sup>	<2	2.5	2.1	<2	<2	2.2	2.9	<2	3.6	2.6	2.7	3.7	2.3	3.6	3.1
Cadmium	20 <sup>1</sup>	3 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5
Chromium (Total)	120,000 <sup>1</sup>	400 <sup>2</sup>	72	24	28	50	43	43	36	41	30	23	20	21	21	25	22
Copper	1,000 <sup>1</sup>	100 <sup>2</sup>	17	24	22	18	23	27	24	23	31	31	32	37	31	34	35
Mercury	15 <sup>1</sup>	1 <sup>2</sup>	8.5	11	11	7.2	6.9	14	10	7.8	15	9.2	12	11	12	12	16
Lead	300 <sup>1</sup>	600 <sup>2</sup>	20	24	26	16	23	22	24	23	31	26	23	25	25	25	26
Nickel	600 <sup>1</sup>	60 <sup>2</sup>	55	110	91	41	110	94	95	78	120	120	130	140	120	140	160
Zinc	7000 <sup>1</sup>	200 <sup>2</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	<0.1	<0.1	<0.1
TOTAL PETROLEUM HYDROCARBONS																	
C6 - C9 Fraction	65 <sup>3</sup>		<20	<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	<50
C15-C28 Fraction			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Total C10-C36	1000 <sup>3</sup>		<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250
>C16-C35 Fraction (aromatics)	90 <sup>1</sup>		<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
>C16-C35 Fraction	5,600 <sup>1</sup>		<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
>C35 Fraction (aliphatics)	56,000 <sup>1</sup>		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
BTEX																	
Benzene	1 <sup>3</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	<0.05
Toluene	130 <sup>3</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	<0.05
Ethylbenzene	50 <sup>3</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	<0.05
Total Xylene	25 <sup>3</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	<0.05
POLYCYCLIC AROMATIC HYDROCARBONS																	
Acenaphthene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.1	<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	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	1 <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	<0.1	<0.1	<0.1
Benzo(b)fluoranthene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)pyrene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH	20 <sup>1</sup>		<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
ORGANOCHLORINE PESTICIDES																	
Heptachlor	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	<0.1	<0.1	<0.1
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	<0.1	<0.1	<0.1
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	<0.1	<0.1	<0.1
DDT + DDE + DDD	200 <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	<0.1	<0.1	<0.1
Other OCP			<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
ORGANOPHOSPHOROUS PESTICIDES																	
Total			<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2

NOTES:

**Bold** Concentration exceeds the respective threshold concentration

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

<sup>2</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd edition) - Column 5 Provisional Phytotoxicity

<sup>3</sup> Based on NSW EPA (1994), Guidelines for Assessing Service Station Sites - Table 3

<sup>\*</sup> Not Analysed



TABLE 8:  
SUMMARY OF LABORATORY RESULTS FOR SOIL SAMPLES  
Heavy Metals, OCP and OPP

(All results in mg/kg)

Sample ID	THRESHOLD CONCENTRATIONS		A1	A3	B1	B2	C2	C3	D1	D3	D4	E1	E2	E4	E5	F1	F3	G1	H1
Material			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling			6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	6/9/2006	13-Jun-2006
Depth (m)			0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
HEAVY METALS																			
Arsenic	100 <sup>1</sup>	20 <sup>2</sup>	<2	<2	2.5	2.2	<2	2.7	2.7	2.9	2.7	2.7	<2	2.3	2.2	2.1	<2	4.2	3
Cadmium	20 <sup>1</sup>	3 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5
Chromium (Total)	120,000 <sup>1</sup>	400 <sup>2</sup>	60	72	40	58	51	55	27	58	38	32	44	35	43	29	41	26	23
Copper	1,000 <sup>1</sup>	100 <sup>2</sup>	27	17	16	22	14	18	20	25	22	25	24	24	27	26	23	45	27
Lead	300 <sup>1</sup>	600 <sup>2</sup>	9	8.5	11	9.1	5.7	13	10	14	8.7	9.7	7.8	7.6	14	14	7.8	58	12
Nickel	600 <sup>1</sup>	60 <sup>2</sup>	29	20	25	28	31	19	20	33	24	32	26	35	22	26	23	34	21
Zinc	7000 <sup>1</sup>	200 <sup>2</sup>	68	55	59	69	61	63	72	100	84	120	120	97	94	140	78	1600	100
Mercury	15 <sup>1</sup>	1 <sup>2</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	<0.1	<0.1	0.1	<0.1	<0.1
ORGANOCHLORINE PESTICIDES																			
Heptachlor	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	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.1	<0.1	<0.1	<0.1	<0.1
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	<0.1	<0.1	<0.1	<0.1	<0.1
DDT + DDE + DDD	200 <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	<0.1	<0.1	<0.1	<0.1	<0.1
Other OCP			<0.1	<0.1	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
ORGANOPHOSPHOROUS PESTICIDES																			
Total					<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2

NOTES:

- Bold**
- Concentration exceeds the respective threshold concentration
- <sup>1</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd edition)and NEPM (1999) (Residential with access to soil - NEHF - A)
- <sup>2</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd edition) - Column 5 Provisional Phytotoxicity
- <sup>3</sup> Based on NSW EPA (1994), Guidelines for Assessing Service Station Sites - Table 3
- <sup>\*</sup> Not Analysed



The following points are noted with regard to the results of testing on individual samples summarised in Tables 7 and 8:

- Concentration of zinc exceeded the provisional phytotoxicity criteria in sample G1. Heavy Metal concentrations were below adopted criteria or the laboratory Limit Of Reporting (LOR) in each other sample tested;
- TPH concentrations were below the LOR in each sample tested. However, the LOR exceeds the adopted criteria for  $>C_{16}-C_{35}$  Fraction (aromatic). It is noted that the results for TPH do not differentiate between aromatic and aliphatic TPH, and it is possible that no aromatic TPH is present;
- BTEX concentrations were below the LOR in each sample tested;
- PAH concentrations were below the LOR in each sample tested;
- OCP and OPP concentrations were below the LOR in each sample tested.

#### **6.4 Conclusions and Recommendations after Phase 1 Assessment**

The site occupies an area of about 9.9ha and forms Lot 2 DP622475. The site history indicated that there had been no major developments on the site other than the construction of a small shed and that there had been no widespread contaminating activities carried out. For at least the last 30 years the site has been used for cattle grazing, and is likely to have been used for cattle grazing since being granted from Crown Land in 1902 to 1911.

Twenty-two sample locations were spread evenly across the site in an approximate 70m grid, and seven sample locations targeted a small shed. The sample analysis was used to assess the site for the presence or absence of contamination.

The laboratory results of surface soil samples collected, indicated that concentrations of the chemicals of concern, were below the adopted guideline criteria for human health. One sample, G1, had a zinc concentration which exceeds the provisional phytotoxicity criteria.

The zinc exceedance may suggest that the health of some plant species, sensitive to zinc, could be affected if planted in these soils. There was no obvious source of the elevated zinc contamination in this area. Zinc can be commonly found from weathering of galvanised products such as corrugated iron and could have originated from such a source. It is noted that the phytotoxicity investigation levels are provisional and their use has significant limitations because phytotoxicity depends on soil and species parameters in ways that are not fully understood. They are used as a screening guide and are assumed to apply to sandy loam soils with a pH of 6 to 8.

Based on the concentration of zinc exceeding the adopted criteria by more than two and half times, it is considered the sample represents a hot spot. As such, it was recommended to the client that further investigations (Phase 2) be carried out near G1. Such further sampling was approved and subsequently carried out. The results of the Phase 2 assessment are presented and discussed below.

## **7. PHASE 2 ASSESSMENT**

### **7.1 Sampling and Analysis Plan**

The previous sampling location, G1, is located on the northern portion of the proposed subdivision. The site history indicated that the proposed subdivision area had not been subject to past contaminating land uses.

Based on this, the likelihood of widespread contamination occurring on the site was considered to be low, and the elevated zinc concentration encountered in sample G1 was likely to represent a localised area of zinc contamination.

The chemical of concern identified for sample G1 was heavy metal zinc.

Samples for this current study were collected using an approximate grid, with 4 surface samples collected at 5m distance, 8 surface samples collected at 10m to 14m distance and 16 surface samples collected at 20m to 28m distance from the original sample location of G1 as shown on Figure 2.

Initially samples from 5m and 10m-14m distance were analysed for zinc. Based on the results of this first round of testing, it was considered appropriate to carry out further testing on the samples. Testing for 8 Heavy Metals and the toxicity characterisation leachability procedure (TCLP) was carried out on each sample, including the original sample G1.

## **7.2 Field Investigations**

Field work was carried out on the 3 August 2006 and comprised collection of samples on the site by a Senior Geotechnician from our Northern Rivers office. For the site layout, and sample locations, see Figures 1 and 2.

The samples were collected from the top 0.2m of the surface soils, using hand tools. Individual samples were directly placed into laboratory supplied glass jars, and stored in chilled insulated containers during fieldwork and transport to the contract laboratory. A clean pair of latex gloves was used to collect each individual sample. The sampling equipment was decontaminated between each location using the triple rinse method, which involves washing the equipment in potable water, rinsing with 4% Decon 90 (a phosphate free detergent) solution and a final rinse in potable water.

Duplicates were collected at a rate of one per ten samples. To confirm effective equipment decontamination one wash blank sample was collected and analysed.

## **7.3 Soil Sampling and Analysis Results**

### **7.3.1 Subsurface Conditions**

Each sample was collected in topsoil, which generally comprised clayey silt and silty clay, low to medium plasticity, dark brown, and with a friable consistency. No evidence of fill soils was noted nor were unusual odours or staining.

### **7.3.2 Quality Assurance/Quality Control (QA/QC) and Data Usability**

Soil sampling activities were generally based on procedures and protocols outlined in Coffey's Environmental Field Manual (QP 15/5-E, June 1995, revised September 1997) which is based on industry accepted standard practice.

Samples were received and analysed by mgt Environmental Consulting (mgt) within the recommended holding times. Copies of the Chain of Custody documentation are attached. Duplicate samples (DUP 1 and DUP2) were taken in the field and a wash blank (WB1) collected. The results of the primary and duplicate results are compared in Table 9.

**TABLE 9: COMPARISON OF PRIMARY & DUPLICATE SAMPLE RESULTS**

Sample ID	Primary/Duplicate	Zinc (mg/kg)	RPD (%)
GA4	Primary	330	-
DUP 1	Duplicate	270	20
GB8	Primary	160	-
DUP 2	Duplicate	350	75

As can be seen in Table 2, the Relative Percentage Difference (RPD) for samples GB8 and DUP2 exceeded the control limit of 50%. Three samples, which were tested in the first and second round of testing for zinc, were reported by the laboratory with significantly different concentrations of zinc. These three samples were retested to check for sample heterogeneity, or possible laboratory errors. In total, the three samples were tested for zinc four times. The results for additional testing on the three samples are shown in Table 10.

**TABLE 10: SUMMARY OF RE-TEST ON SAMPLES**

Sample ID	Zinc (mg/kg)			
	Test 1	Test 2	Test 3	Test 4
GA2	670	800	1,100	860
GB1	360	860	680	760
GB7	460	1,000	960	570

The results from Table 10 show that zinc concentrations are variable and show considerable sample heterogeneity. Taking into account the observed heterogeneity of the samples, it is therefore considered that the RPDs shown in Table 9 are acceptable.

The wash blank was tested for heavy metal zinc. Concentrations of zinc in the wash blank sample were below the Limit of Reporting (LOR). The decontamination procedures adopted by Coffey are considered to be satisfactory and in accordance with standard industry practice.

Laboratory QA/QC included laboratory blanks, laboratory duplicates, laboratory control samples, and method blanks. The RPDs of laboratory duplicates were within control limits. No analytes were detected in the laboratory blanks. The laboratory control samples were generally within control limits.

Based on the results of QA/QC testing, it is considered that the soil analytical results are useable, and reasonably represent the conditions at the sampling locations at the time of sampling.

### 7.3.3 Laboratory Results

Samples from the locations 5m and 10m-14m distance were submitted for analysis of zinc. The laboratory results for zinc analysis are summarised in Table 11. The samples from 20m-28m distance were held in storage for possible later analysis. The laboratory results of analysis are summarised in Table 11. The laboratory results sheets are presented in Appendix C.

**TABLE 11: SUMMARY OF LABORATORY RESULTS FOR ZINC**

SAMPLE ID	DATE	ZINC (mg/kg)	Adopted Criteria
GA1	3 August 2006	150	200
GA2	3 August 2006	<b>670</b>	200
GA3	3 August 2006	180	200
GA4	3 August 2006	<b>330</b>	200
GB1	3 August 2006	<b>360</b>	200
GB2	3 August 2006	140	200
GB3	3 August 2006	<b>250</b>	200
GB4	3 August 2006	110	200
GB5	3 August 2006	<b>220</b>	200
GB6	3 August 2006	100	200
GB7	3 August 2006	<b>460</b>	200
GB8	3 August 2006	160	200

Note: Values in **bold & shaded** exceed the adopted criteria

As can be seen in Table 4 samples GA2, GA4, GB1, GB3, GB5 and GB7 had zinc concentrations which exceeded the residential phytotoxicity criteria, the other samples tested were below the adopted criteria.

Based on the results, it was recommended that further analysis on the samples be carried out to assess the waste classification. Testing for eight heavy metals (arsenic, cadmium, chromium, copper lead, nickel, zinc, mercury) and the toxicity characterisation leachability procedure (TCLP) for eight heavy metals was carried out on the samples, including the original sample G1. The results of the second round of testing are summarised in Table 12 below.

TABLE 12: SUMMARY OF LABORATORY RESULTS FOR HEAVY METALS

(All results in mg/kg)

Sample ID	THRESHOLD CONCENTRATION			G1	GA1	GA2	GA3	GA4	GB1	GB2	GB3	GB4	GB5	GB6	GB7	GB8	GC1	GC2
Material				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date of Sampling				6-Sep-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006
Depth (m)				0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Unit				Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil
HEAVY METALS																		
Arsenic	100 <sup>1</sup>	20 <sup>2</sup>	500 <sup>3</sup>	4.2	3.9	4.6	4.7	3.9	3.5	5.3	3.9	4	3.5	3.4	4.5	3.4	2.8	2.7
Cadmium	20 <sup>1</sup>	3 <sup>2</sup>	100 <sup>3</sup>	1.1	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5
Chromium (Total)	120,000 <sup>1</sup>	400 <sup>2</sup>	1,900 <sup>3</sup>	26	30	26	33	26	30	35	30	42	26	33	26	31	32	27
Copper	1000 <sup>1</sup>	100 <sup>2</sup>	- <sup>3</sup>	45	36	45	35	41	33	40	36	37	47	31	47	38	23	30
Lead	300 <sup>1</sup>	600 <sup>2</sup>	1500 <sup>3</sup>	58	36	89	45	52	33	27	30	21	36	18	73	27	11	8.7
Nickel	600 <sup>1</sup>	60 <sup>2</sup>	1050 <sup>3</sup>	34	29	32	25	28	22	27	27	28	32	25	33	30	23	22
Zinc	7000 <sup>1</sup>	200 <sup>2</sup>	- <sup>3</sup>	1600	180	670	180	310	360	140	250	110	220	100	460	160	69	75
Mercury	15 <sup>1</sup>	1 <sup>2</sup>	50 <sup>3</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	<0.1	<0.1	<0.1
TCLP HEAVY METALS																		
Arsenic	0.5 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.1 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	1 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	- <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	0.2 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead	0.5 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	- <sup>4</sup>			2.3	0.28	1.3	0.19	0.39	0.69	0.09	0.46	0.07	0.29	0.06	2.2	0.29	0.04	0.05
Mercury	0.02 <sup>4</sup>			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sample ID	THRESHOLD CONCENTRATION			GC3	GC4	GC5	GC6	GC7	GC8	GC9	GC10	GC11	GC12	GC13	GC14	GC15	GC16	
Material				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date of Sampling				3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	3-Aug-2006	
Depth (m)				0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	
Unit				Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	
HEAVY METALS																		
Arsenic	100 <sup>1</sup>	20 <sup>2</sup>	500 <sup>3</sup>	7.7	16	7.5	3.4	3.1	3.3	4.5	2.9	4.3	4	2.6	6.4	3.4	3.8	
Cadmium	20 <sup>1</sup>	3 <sup>2</sup>	100 <sup>3</sup>	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chromium	120,000 <sup>1</sup>	400 <sup>2</sup>	1,900 <sup>3</sup>	38	27	26	27	25	40	30	25	34	45	31	36	37	33	
Copper	1000 <sup>1</sup>	100 <sup>2</sup>	- <sup>3</sup>	38	36	39	30	54	32	48	27	42	31	35	59	34	44	
Lead	300 <sup>1</sup>	600 <sup>2</sup>	1500 <sup>3</sup>	32	24	29	14	70	17	36	14	22	11	16	31	26	21	
Nickel	600 <sup>1</sup>	60 <sup>2</sup>	1050 <sup>3</sup>	25	29	28	20	28	25	33	25	31	32	28	38	32	35	
Zinc	7000 <sup>1</sup>	200 <sup>2</sup>	- <sup>3</sup>	190	140	190	130	660	120	210	110	150	110	140	300	260	170	
Mercury	15 <sup>1</sup>	1 <sup>2</sup>	50 <sup>3</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	<0.1	<0.1	
TCLP HEAVY METALS																		
Arsenic	0.5 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Cadmium	0.1 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Chromium	1 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Copper	- <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Nickel	0.2 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Lead	0.5 <sup>4</sup>			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Zinc	- <sup>4</sup>			0.33	0.09	0.49	0.1	0.08	0.07	0.25	0.26	0.19	0.05	0.07	0.44	0.52	0.15	
Mercury	0.02 <sup>4</sup>			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	

NOTES:

**Bold** Concentration exceeds Human Health and/or Phytotoxicity Criteria

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

<sup>2</sup> Based on NSW DEC (2006), Guidelines for the NSW Site Auditor Scheme (2nd edition) - Provisional Phytotoxicity based investigation levels for sandy loams pH 6-8 and NEPM (1999) - Environmental Investigation Levels

<sup>3</sup> Based on NSW DEC (2004), Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes - Table A4 Inert waste Total Concentration

<sup>4</sup> Based on NSW DEC (2004), Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes - Table A4 Inert Waste Leachable Concentration

Three samples, which were tested in the first and second round of testing for zinc, were reported with significantly different concentrations of zinc. These three samples were retested to check for sample heterogeneity, or possible laboratory errors. In total, the three samples were tested for zinc four times. The results differed in each test and the laboratory commented that the samples were heterogeneous in nature.

## 8. CONCLUSIONS

The site history information presented in this report suggested that, in general, the site had not been subject to activities that would be considered to be potentially contaminating.

Based on this, the location of the elevated zinc concentration, G1, was investigated to aid in assessing the extent of contamination in the form of heavy metal zinc at this location. The results of the step out samples indicated that elevated zinc concentrations extended to at least 20m to 28m distance from the G1 location, however concentrations tended to decrease with distance, indicating the contamination was not wide spread and represented localised contamination. Based on the concentrations of the zinc in the samples, it was recommended that eight heavy metals and a TCLP of heavy metals be carried out to assess the waste classification of the soils.

The Phase 1 laboratory testing indicated that common contaminants, Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl-benzene, Xylene (BTEX), Poly-Aromatic Hydrocarbons (PAH), and organochlorine pesticides (OCPs) were below the adopted criteria.

Based on the results of the heavy metal and TCLP testing, and the previous testing (reported in NR1059/3-AB) the soils classify as **inert** waste in accordance with the NSW DEC (2004) guidelines and can be disposed of to landfill licensed to accept this waste

Based on the results of the site history assessment, and the laboratory testing, it is considered that there are two remediation options for the site. These options are:

1. Excavation and removal off site to landfill. Soils in the location of G1 (outlined on Figure 3) to a depth of about 0.2m should be removed to a landfill that can accept inert waste. Validation testing of the excavation should be carried out by a qualified environmental consultant to assess the effectiveness of the remediation.
2. Containment of the soils on site under pavements or residential slabs. The soils could be removed from their current position and moved to an appropriate place within the site where pavements are planned. Validation testing as in Option 1 would still be required. This option would also require the preparation of a Site Management Plan that may include sampling of the groundwater depending on the final resting place of the soil.

Please note that the area outlined on Figure 3 is estimated, and the actual lateral and vertical extent of the contamination may differ from that shown. It may be necessary to excavate further should the results of the validation testing indicate elevated levels of zinc in the excavation walls.

## 9. LIMITATIONS

The findings of the soil sampling and analysis are the result of discrete and specific sampling methodologies, involving sampling from predetermined locations within the soil profile. Whilst it is considered that the results obtained are likely to be representative of general conditions on the site, the existence of undetected



contamination between sampling locations cannot be precluded. 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.



#### REFERENCES:

1. NSW Department of Environment & Conservation (DEC), Guidelines for the NSW Site Auditor Scheme (2<sup>nd</sup> edition), April 2006
2. The NEPC (1999) National Environment Protection (Assessment of Site Contamination) Measure, Schedule B (7a) Guideline on Health-Based Investigation Levels
3. NSW Environmental Protection Authority (EPA), Guidelines for Consultants Reporting on Contaminated Sites, September 2000
4. NSW Department of Environment & Conservation (DEC), Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes, June 2004

For and on behalf of

**COFFEY GEOSCIENCES PTY LTD**

**DAVID BARKER**

**Senior Geotechnical Engineer**

# Information

## Important information about your Coffey Environmental Site Assessment



Coffey

*Uncertainties as to what lies below the ground on potentially contaminated sites can lead to remediation costs blow outs, reduction in the value of 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.

### **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.

## Important information about your Coffey Environmental Site Assessment



### 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.



Shed  
(See Inset Below)

Plan provided by:



**Coffey Geosciences Pty Ltd** ACN 056 335 516

Geotechnical | Resources | Environmental | Technical | Project Management

Drawn	ELC
Approved	
Date	7/9/2006
Scale	~1:2000

**SAKE DEVELOPMENT PTY LTD**  
PROPOSED SUBDIVISION  
SURVEY STREET, LENNOX HEAD, NSW

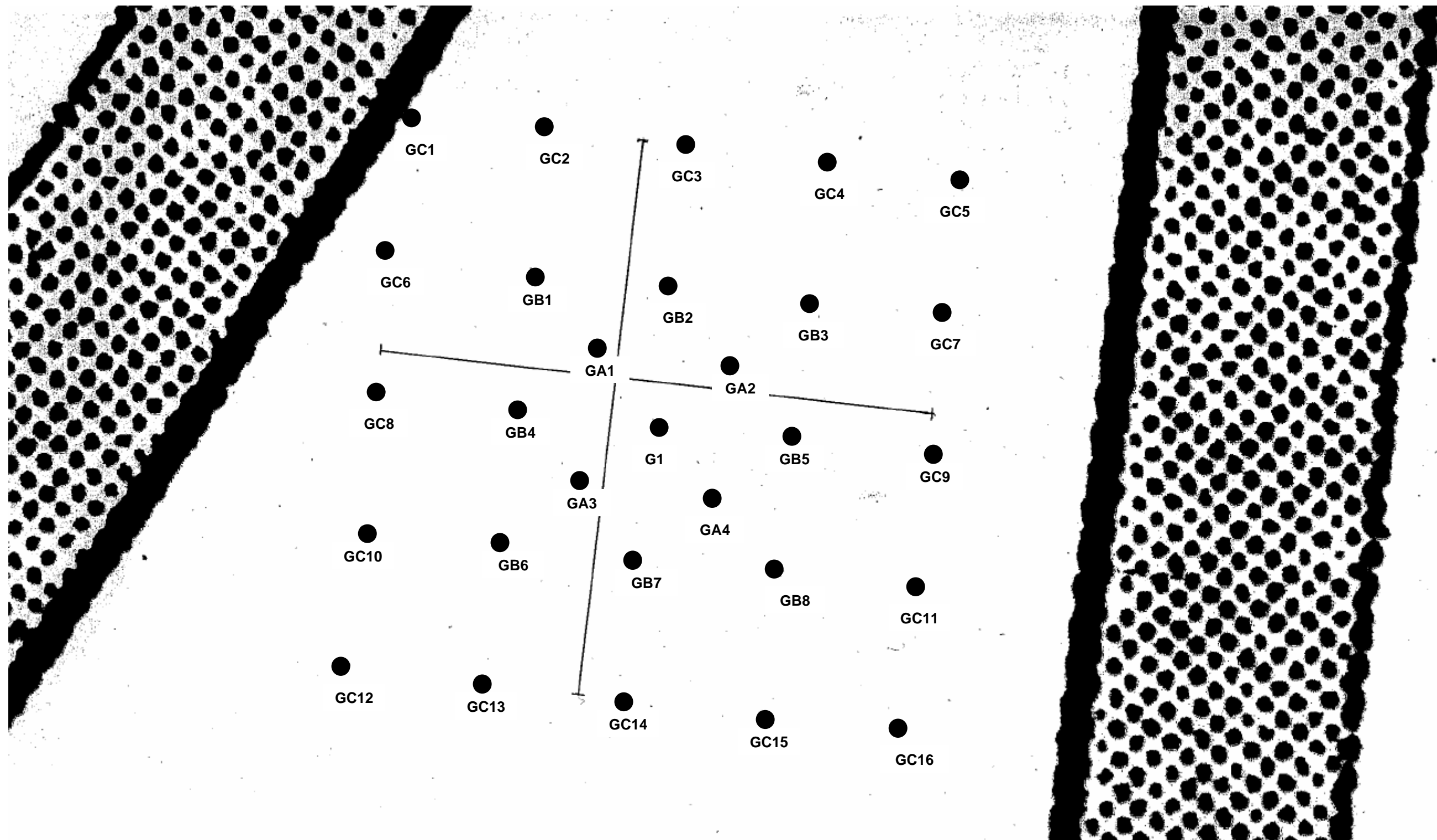
**SITE PLAN SHOWING PHASE 1 SAMPLE LOCATIONS**

Drawing no:

**FIGURE 1**

Job no: NR1059/3-AE





**LEGEND:**

● Approximate location of samples  
GC1

Coffey Geosciences Pty Ltd ACN 056 335 516		Geotechnical   Resources   Environmental   Technical   Project Management	
Drawn	ELC	SAKE DEVELOPMENT PTY LTD PROPOSED SUBDIVISION SURVEY STREET, LENNOX HEAD, NSW  GRID SAMPLE LOCATIONS FOR PHASE 2 ASSESSMENT	Drawing no:
Approved			FIGURE 2
Date	7/9/2006		Job no: NR1059/3-AE
Scale	1:300		



Plan provided by:



0 40 80 120  
SCALE (m)

**Coffey Geosciences Pty Ltd** ACN 056 335 516

Geotechnical | Resources | Environmental | Technical | Project Management

Drawn	ELC
Approved	
Date	7/9/2006
Scale	~1:2000

**SAKE DEVELOPMENT PTY LTD**  
**PROPOSED SUBDIVISION**  
**SURVEY STREET, LENNOX HEAD, NSW**

**SITE PLAN SHOWING AREA REQUIRING REMEDIATION**

Drawing no:

**FIGURE 3**

Job no: **NR1059/3-AE**

## APPENDIX A

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### Site History Assessment Documentation



Our Ref: D06/036954

Your Ref: Emma Coleman/David Barker

1 June 2006

Attention: Ms Emma Coleman  
Coffey Geosciences  
PO Box 704  
COFFS HARBOUR NSW 2450

Dear Ms Coleman

**RE SITE: 1 Survey Street, Lennox Head**

I refer to your search request of 31 May 2006 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.



Gabriela Wilsmore  
**A/Team Leader**  
**Dangerous Goods**

WorkCover. **Watching out for you.**





Our Ref: D06/036954  
Your Ref: Emma Coleman/David Barker

1 June 2006

Attention: Ms Emma Coleman  
Coffey Geosciences  
PO Box 704  
COFFS HARBOUR NSW 2450

Dear Ms Coleman

**RE SITE: 1 Survey Street, Lennox Head**

I refer to your search request and acknowledge receipt on 31 May 2006 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 will be conducted and any records pertaining to the above-mentioned premises will be forwarded to you. Please note there may be a delay if the file needs to be requested from our storage warehouse, which is located offsite.

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

A handwritten signature in black ink, appearing to read 'G. Wilsmore'.

Gabriela Wilsmore  
**Acting Team Leader**  
**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)

WC1216LH



Print



Close page

## Search results

---

Your search for: LGA: Ballina Shire Council

Matched 1 notice relating to 1 site.

Suburb	Address	Site Name	Notices related to this site
Lennox Head	Fig Tree Hill Drive	Dip 5282 Spoons	1 current

Page 1 of 1

25 May 2006

# **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)

30 May 2006

**COFFEY GEOSCIENCES Pty Ltd**

PO Box 704

**COFFS HARBOUR NSW 2450**

**Attention David Barker**

**RE:**

**1 Survey Rd,**

**Lennox Head**

**Reference No: NR 1059/2**

## **Current Search**

Folio Identifier 2/622475 (attached)

DP 622475 (plan attached)

Dated 24 May 2006

Registered Proprietor:

**DAVID MALCOLM DOSSOR**

**RUTH DIANE DOSSOR**

**Title Tree**  
**Lot 2 DP 622475**

Folio Identifier 2/622475

Certificate of Title Volume 14696 Folio 29

**(a)**

**(b)**

Certificate of Title Volume 11798 Folio 79

Certificate of Title Volume 13262 Folio 50

Certificate of Title Volume 11044 Folio 162

Certificate of Title Volume 12959 Folio 145

Certificate of Title Volume 7226 Folio 180

Certificate of Title Volume 11798 Folio 136

Certificate of Title Volume 2168 Folio 35

/

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CROWN LAND

CT Vol 1425 – 36

CT Vol 11044 – 162

\*\*\*\*

CROWN LAND

CT Vol 7226 – 180

\*\*\*\*

CT Vol 2168 – 35

CROWN LAND

\*\*\*\*

**See Notes (a) & (b)**

	<b>(Lot 61 DP 242183 - CT Vol 11798 Fol 79)</b>
1979 – 1982	Michael David Mazzer Wendy Ann Mazzer
1972 – 1979	Cyril John Skimmings, chartered accountant
1972 – 1972	Jack Stuart Easter, farmer
	<b>(Lot 8 DP 237480 - CT Vol 11044 Fol 162)</b>
1969 – 1972	Jack Stuart Easter, farmer
	<b>(Part Portion 48 Parish Ballina - Area 26 Acres 3 Roods 4 Perches - CT Vol 7226 Fol 180)</b>
1962 – 1969	Jack Stuart Easter, farmer
1956 – 1962	Joseph Holmes Henderson, farmer Edward Henderson, picture operator Laura Adeline Henderson, spinster
	<b>(Portion 48 Paris Ballina - Area 31 acres 2 Roods 37 Perches - CT Vol 2168 Fol 35)</b>
1954 – 1956	Joseph Holmes Henderson, farmer Edward Henderson, picture operator Laura Adeline Henderson, spinster
1911 – 1954	Edward Henderson, farmer
1911 – 1911	The Commercial Banking Company of Sydney Limited (Grantee)
Prior – 1911	CROWN LAND

\*\*\*\*

**Note (b)**

	<b>(Lot 1 DP 587685 - CT Vol 13262 Fol 50)</b>
1981 – 1982	David Malcolm Dossor Ruth Diane Dossor
1979 – 1981	John Chesterton Gunn, panel beater Alana Carol Gunn
1977 – 1979	Stanley Charles Dorbon, clerk
	<b>(Lot 2 DP 573196 - CT Vol 12959 Fol 145)</b>
1975 – 1977	Stanley Charles Dorbon, clerk
	<b>(Lot 118 DP 242183 - CT Vol 11798 Fol 136)</b>
1974 – 1975	Stanley Charles Dorbon, clerk
1972- 1974	Jack Stuart Easter, farmer

**See (bi) & (bii)**

**(bi)**

	<b>(Portion 56 Parish Ballina - Area 56 Acres - CT Vol 1425 Fol 36)</b>
1962 – 1972	Jack Stuart Easter, farmer
1955 – 1962	Joseph Holmes Henderson, farmer Edward Henderson, picture operator Laura Adeline Henderson, spinster
1902 – 1955	Edward Henderson, farmer
1902 – 1902	The Commercial Banking Company of Sydney Limited (grantee)
Prior – 1902	CROWN LAND

**(bii)**

	<b>(Lot 8 DP 237480 - CT Vol 11044 Fol 162)</b>
1969 – 1972	Jack Stuart Easter, farmer
	<b>(Part Portion 48 Parish Ballina - Area 26 Acres 3 Roods 4 Perches - CT Vol 7226 Fol 180)</b>
1962 – 1969	Jack Stuart Easter, farmer
1956 – 1962	Joseph Holmes Henderson, farmer Edward Henderson, picture operator Laura Adeline Henderson, spinster
	<b>(Portion 48 Paris Ballina - Area 31 acres 2 Roods 37 Perches - CT Vol 2168 Fol 35)</b>
1954 – 1956	Joseph Holmes Henderson, farmer Edward Henderson, picture operator Laura Adeline Henderson, spinster
1911 – 1954	Edward Henderson, farmer
1911 – 1911	The Commercial Banking Company of Sydney Limited (Grantee)
Prior – 1911	CROWN LAND

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

# Title Search

**EziSearch**  
An Approved LPI NSW  
Information Broker

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

FOLIO: 2/622475

SEARCH DATE	TIME	EDITION NO	DATE
24/5/2006	5:04 PM	1	13/12/2002

### LAND

LOT 2 IN DEPOSITED PLAN 622475  
AT LENNOX HEAD  
LOCAL GOVERNMENT AREA: BALLINA  
PARISH OF BALLINA COUNTY OF ROUS  
TITLE DIAGRAM: DP622475

### FIRST SCHEDULE

DAVID MALCOLM DOSSOR  
RUTH DIANE DOSSOR  
AS JOINT TENANTS (T S970455)

### 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. DP587685 RIGHT OF CARRIAGEWAY AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
3. DP242183 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

### NOTATIONS

UNREGISTERED DEALINGS: NIL

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

Coffey - Lennox Head ALSP

PRINTED ON 24/5/2006

\* 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.

Signatures and seals only.

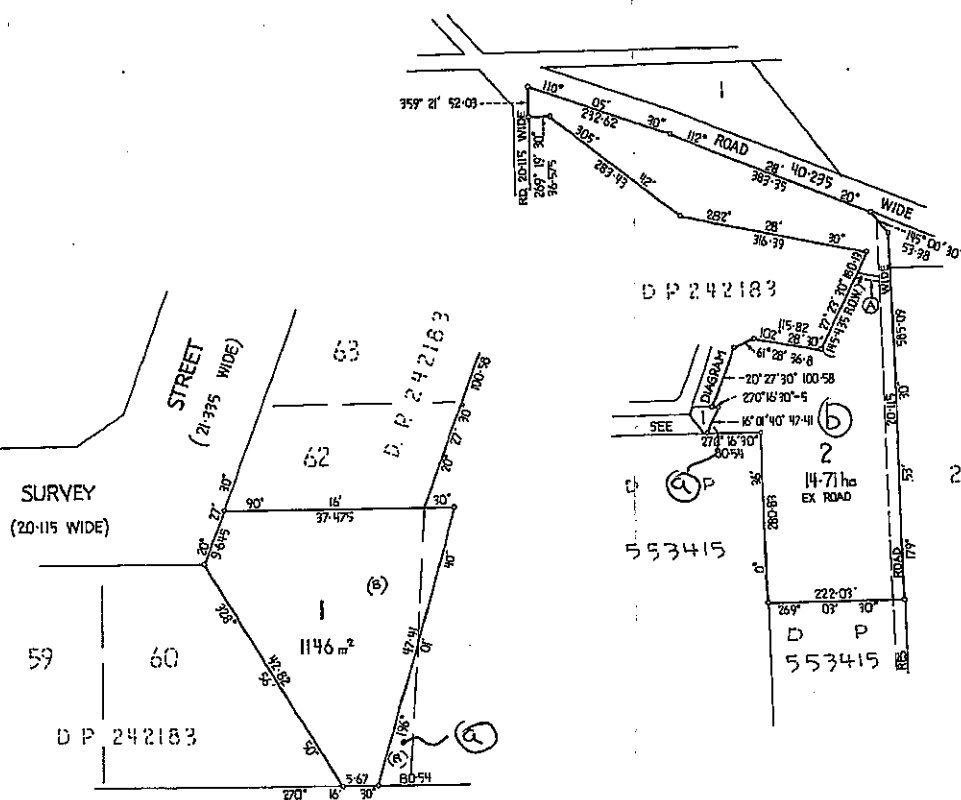
*Mr. [Signature]*  
*10/10/1981*

*[Signature]*

*[Signature]*

Surveyor's Certificate  
 I hereby certify that the  
 (a) the requirements of the Local Government Act, 1929  
 (b) the requirements of the Local Government Act, 1929  
 (c) the requirements of the Local Government Act, 1929  
 (d) the requirements of the Local Government Act, 1929  
 (e) the requirements of the Local Government Act, 1929  
 (f) the requirements of the Local Government Act, 1929  
 (g) the requirements of the Local Government Act, 1929  
 (h) the requirements of the Local Government Act, 1929  
 (i) the requirements of the Local Government Act, 1929  
 (j) the requirements of the Local Government Act, 1929  
 (k) the requirements of the Local Government Act, 1929  
 (l) the requirements of the Local Government Act, 1929  
 (m) the requirements of the Local Government Act, 1929  
 (n) the requirements of the Local Government Act, 1929  
 (o) the requirements of the Local Government Act, 1929  
 (p) the requirements of the Local Government Act, 1929  
 (q) the requirements of the Local Government Act, 1929  
 (r) the requirements of the Local Government Act, 1929  
 (s) the requirements of the Local Government Act, 1929  
 (t) the requirements of the Local Government Act, 1929  
 (u) the requirements of the Local Government Act, 1929  
 (v) the requirements of the Local Government Act, 1929  
 (w) the requirements of the Local Government Act, 1929  
 (x) the requirements of the Local Government Act, 1929  
 (y) the requirements of the Local Government Act, 1929  
 (z) the requirements of the Local Government Act, 1929

D.P. 622475



**DIAGRAM**  
 R.R. 1-500

## Council Clerk's Certificate

I hereby certify that -

(a) the requirements of the Local Government Act, 1929  
 (b) the requirements of the Local Government Act, 1929  
 (c) the requirements of the Local Government Act, 1929  
 (d) the requirements of the Local Government Act, 1929  
 (e) the requirements of the Local Government Act, 1929  
 (f) the requirements of the Local Government Act, 1929  
 (g) the requirements of the Local Government Act, 1929  
 (h) the requirements of the Local Government Act, 1929  
 (i) the requirements of the Local Government Act, 1929  
 (j) the requirements of the Local Government Act, 1929  
 (k) the requirements of the Local Government Act, 1929  
 (l) the requirements of the Local Government Act, 1929  
 (m) the requirements of the Local Government Act, 1929  
 (n) the requirements of the Local Government Act, 1929  
 (o) the requirements of the Local Government Act, 1929  
 (p) the requirements of the Local Government Act, 1929  
 (q) the requirements of the Local Government Act, 1929  
 (r) the requirements of the Local Government Act, 1929  
 (s) the requirements of the Local Government Act, 1929  
 (t) the requirements of the Local Government Act, 1929  
 (u) the requirements of the Local Government Act, 1929  
 (v) the requirements of the Local Government Act, 1929  
 (w) the requirements of the Local Government Act, 1929  
 (x) the requirements of the Local Government Act, 1929  
 (y) the requirements of the Local Government Act, 1929  
 (z) the requirements of the Local Government Act, 1929

Subdivision No. 10/10/1981  
 Date 17.9.1981  
 Signature [Signature]  
 (Signature) [Signature]

\*This part of certificate to be deleted where the application is only for a consolidated lot or the setting of a new road or where the land to be subdivided is wholly within the area of operation of the Metropolitan Water Sewerage and Drainage Board and the Minister (Delete if applicable.)

M.P.D.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

I, Bruce Richard Davies, Under Secretary for Lands and Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this day.

1st March, 1982

D P 622475

Registered: 26-2-1982

C.A. No 1981/108 of 17-9-1981

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: X5407-5

Lat. Plan: DP 242183, DP 587685

PLAN  
 SUBDIVISION OF  
 LOT 1 Q.P. 587685 & LOT 61  
 D.P. 242183

Reduction Ratio: 1:5000  
 Lengths are in metres.

Mon./Shire: BALLINA  
 City

Locality: LENNOX HEAD

Parish: BALLINA

County: ROUS

This is a plan of a lot in the  
 (Delete if inapplicable).

1. ATROL JAMES EDWARDS

of BALLINA  
 a surveyor registered under the Surveyors Act, 1929, as amended, hereby certifies that the survey represented in this plan

is a true and correct copy of the original survey made by me on 22-10-1981 and is a true and correct copy of the original survey made by me on 22-10-1981 and is a true and correct copy of the original survey made by me on 22-10-1981

IS COMPILED FROM DP 242183

& DP 587685 ON 21st AUGUST 1981

Signature  
 Surveyor registered under Surveyors Act, 1929, as amended  
 Datum: Line of Admiration  
 \*Strike out either (1) or (2), then date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

SURVEYOR'S REFERENCE: 1425



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

# Historical Search

**EziSearch**  
An Approved LPI NSW  
Information Broker

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

SEARCH DATE  
-----

24/5/2006 5:06PM

FOLIO: 2/622475  
-----

First Title(s): SEE PRIOR TITLE(S)  
Prior Title(s): VOL 14696 FOL 29

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
14/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
13/12/2002	9215262	DISCHARGE OF MORTGAGE	EDITION 1

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

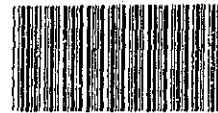
Coffey - Lennox Head ALSP

PRINTED ON 24/5/2006

\* 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

**B97**  
/Req: B158304  
/Doc: CT 14692-029  
/Prt: 25-May-2006



Vol. **14692** Fol. **29**

EDITION ISSUED

25 3 1992

No. 200391



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

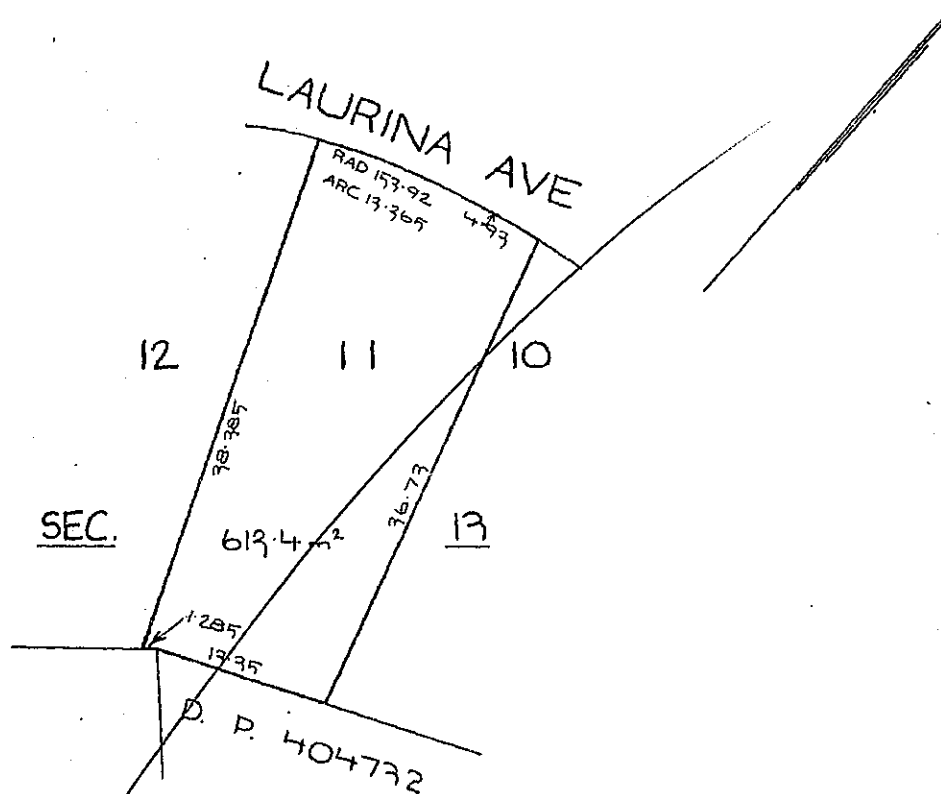
**CANCELLED**

Registrar General.  
**SEE AUTO FOLIO**



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



LAND REFERRED TO

Lot 11 of Section 13 in Deposited Plan 245547 at Engadine in the Shire of Sutherland Parish of Sutherland and County of Cumberland.

FIRST SCHEDULE

~~NORMAN PETER MEADOWS and KEVIN MARLENE MARY MEADOWS as Joint Tenants.~~

SECOND SCHEDULE

- XF <sup>XL</sup> 1. Excepting land below a depth from the surface of 15.24 metres.
- GSB 2. Land excludes minerals and is subject to reservations and conditions in favour of the Crown - See Memorandum S700000B.
- MS 3. Book 2860 No.803 Mortgage to State Bank of New South Wales.

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

## FIRST SCHEDULE (continued)

## REGISTERED PROPRIETOR

Registrar General

~~Kerrie Marlene Mary Meadows~~ Kerrie Marlene Mary Meadows by Transfer V525482. Registered 5-2-1985

CANCELLED

SEE AUTO FOLIO

## SECOND SCHEDULE (continued)

## PARTICULARS

Registrar General

CANCELLATION

## NOTATIONS AND UNREGISTERED DEALINGS

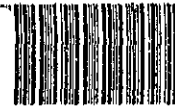
NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

**B97**

/Req: B158306

/Doc: CT 14696-029

/Prt: 25-May-2006



14696-029

NEW SOUTH WALES

Crown Grants Vol. 1425 Fol.36  
Vol. 2168 Fol.35Prior Titles Vol.11798 Fol.79  
Vol.13262 Fol.5016 29  
Fol.

EDITION ISSUED

**CANCELLED** 3 1932

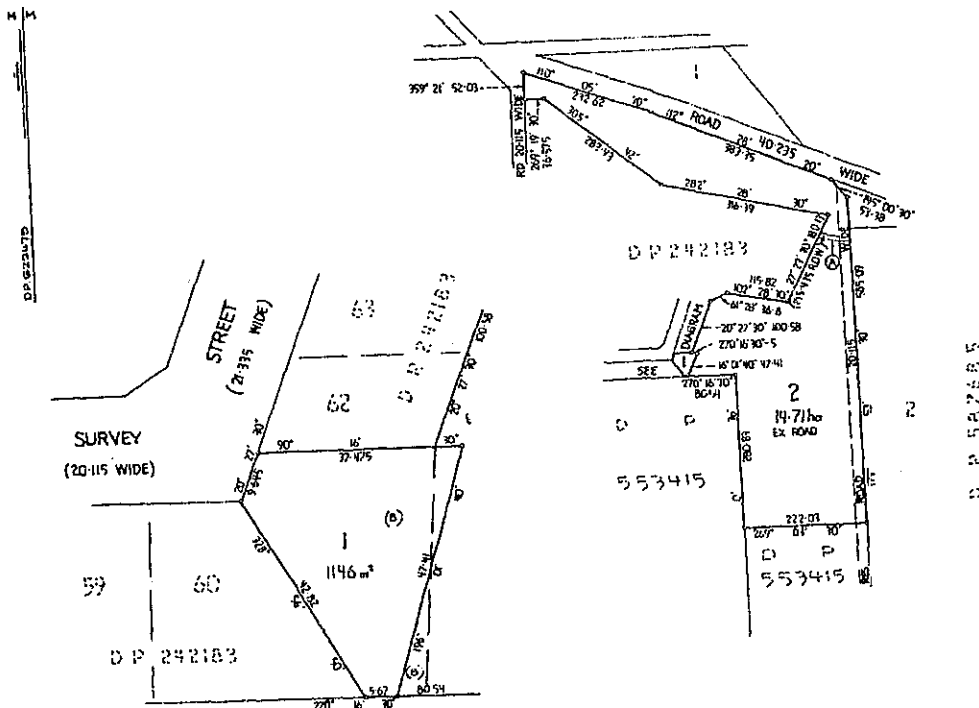
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

**SEE AUTO FOLIO**

Registrar General.

**PLAN SHOWING LOCATION OF LAND**

LENGTHS ARE IN METRES

**DIAGRAM**

- (A) - RIGHT OF CARRIAGEWAY 10 WIDE CREATED BY DP 587685 (Q22096)  
 (B) - RESTRICTION AS TO USER - DP 242183 (M634700)

**ESTATE AND LAND REFERRED TO**

Estate in Fee Simple in Lot 2 in Deposited Plan 622475 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**

~~MICHAEL DAVID MAZZER and WENDY ANN MAZZER as Joint Tenants as to the part of the land above described formerly comprised in Certificate of Title Volume 11798 Folio 79 and DAVID MALCOLM DOSSER and RUTH DIANNE DOSSER as Joint Tenants as to the part formerly comprised in Certificate of Title Volume 13262 Folio 50.~~

**SECOND SCHEDULE**

- GRM  
RC(58)  
RV(58)
1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
  2. DP587685 Right of Carriageway affecting the part of the land above described shown so burdened in Deposited Plan 622475. See Q22096.
  3. DP242183 Restrictions as to user affecting the part of the land above described shown so burdened in Deposited Plan 622475 - see M634700.
  4. ~~S297919 Mortgage to The Commercial Banking Company of Sydney Limited affecting the part of the land above described formerly comprised in Certificate of Title Volume 13262 Folio 50.~~  
Discharged V499819

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

**REGISTERED PROPRIETOR**

**Registrar General**

David Malcolm Dossor and Ruth Diane Dossor as joint tenants by Transfer S970455. Registered 18-6-1982

**SEE AUTO FOLIO**

### PARTICULARS

**Registrar General**

## CANCELLATION

V499820 <sup>P</sup>Mortgage to Australia and New Zealand Banking Group Limited. Registered  
8-1-1985.



## NOTATIONS AND UNREGISTERED DEALINGS

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



NEW SOUTH WALES

Vol. 11798 Fol. 79

Crown Grant Vol. 2168 Fol. 35

Prior Title Vol.11044 Fol.162



Edition issued 20-3-1972

11798 Fol. 79

(Page 1) Vol.

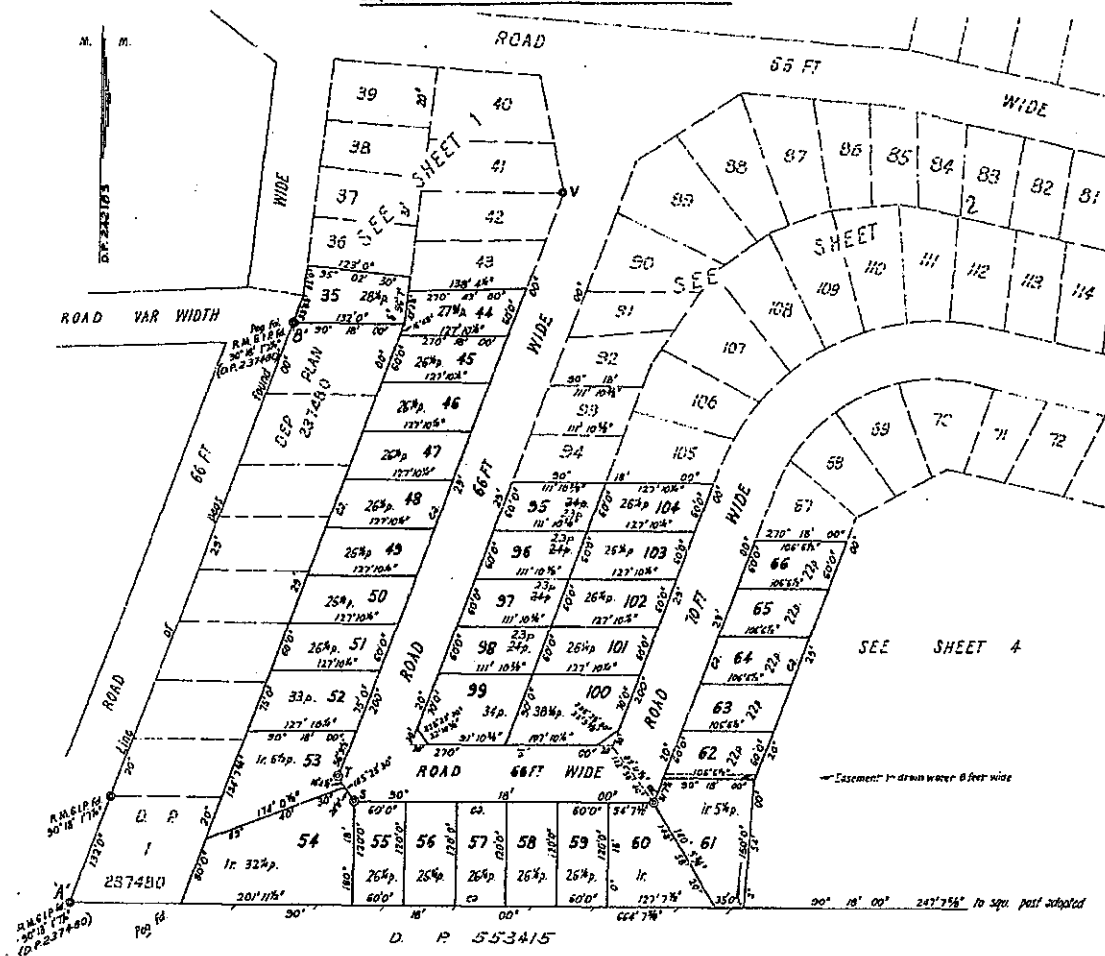
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General



**CANCELLED**

### PLAN SHOWING LOCATION OF LAND



## ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 61 in Deposited Plan 242183 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE

~~JACK STUART~~ ~~of Ballina, Farmer.~~

## SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Restriction as to user created by the registration of Deposited Plan 242183. See M634700.

*Jawaton*  
Registrar General

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 TITLES OFFICE**

REGISTERED PROPRIETOR

NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 622475  
~~NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO~~  
 DEALINGS BRANCH.

Q414562 DM  
 055-3294  
 R597121 MR  
 R164467 MR  
 - 4711  
 R 546907 M R  
 5388563 DM  
 0662-2475  
 59704-2475  
 (0614622475)

INSTRUMENT	
NATURE	NUMBER

This deed is cancelled as to Whole  
New Certificates of Title have Issued on 26.3.82  
for lots in Deposited Plan No. 622475 as follows  
Lots 1-2 Vol. 146446 Vol. 28-29 respectively.

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

NEW SOUTH WALES

B97

/Req: B158311  
/Doc: CT 13262-050  
/Prt: 26-May-2006

62 Fol. 50

Crown Grants Vol. 1425 Fol. 36  
Vol. 2168 Fol. 35

Prior Title Vol. 12959 Fol. 145



EDITION ISSUED

21 2 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.

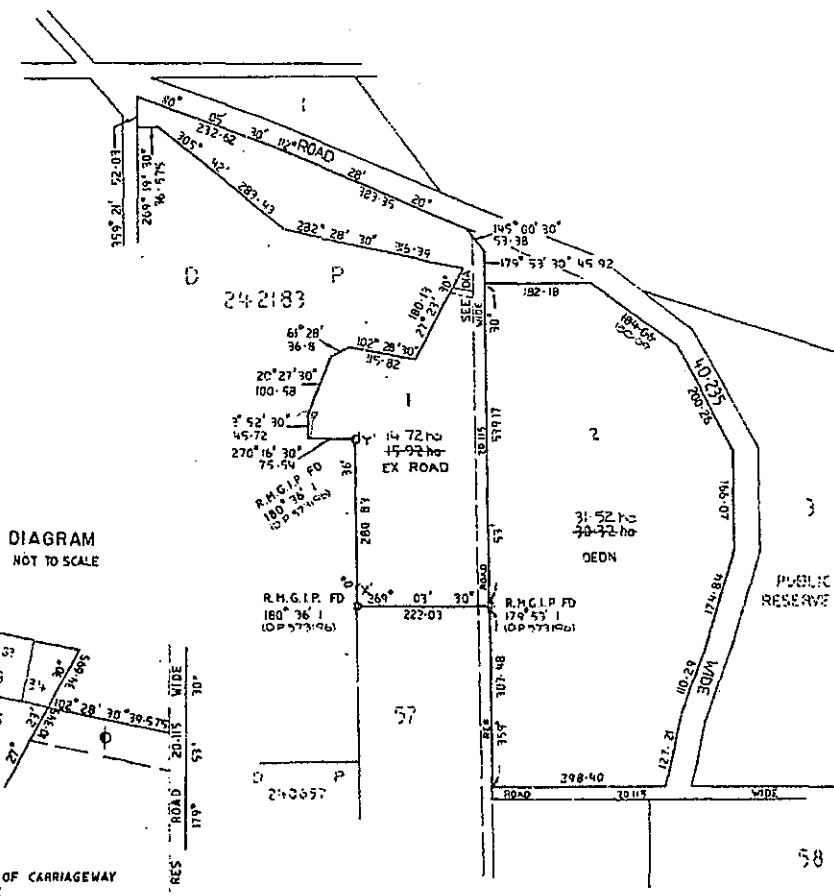
Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 587685 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Rous. EXCEPTING THEREOUT the road shown in the plan hereon and the minerals reserved by the Crown Grants.

FIRST SCHEDULE

STANLEY CHARLES DORSON, Clerk.

SECOND SCHEDULE

- Reservations and conditions, if any, contained in the Crown Grants above referred to.
- Mortgage No. P884253 to Jack Stuart Easter of East Ballina, Farmer. Registered 15 9 1976. Discharged 674283.
- Right of Carriageway affecting the part of the land above described designated (A) in the plan hereon created by the registration of Deposited Plan 587685. See Q22096.

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.



Q674283 d/m R  
R172467, Te, R

[illegible]

52979125 } R  
- 13m }  
C.T. 18.11.80 L  
S970454 Te  
(Lot 1096245)

## SECOND SCHEDULE (continued)

NATURE	INSTRUMENT NUMBER	DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
Mortgage	S297913	—	to The Commercial Banking Company of Sydney Limited	16-2-1981		
			This deed is cancelled as to <u>Whole</u>			
			New Certificates of Title have Issued on <u>26.3.82</u>			
			for lots in <u>D deposited Plan No. L22475</u> as follows:-			
			Lots <u>12</u> , Vol. <u>14696</u> Fol. <u>28</u> respectively.			
			 REGISTRAR GENERAL			

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

B97

/Reg: B158318

/Doc: CT 11044-162

/Prt: 26-May-2006

NEW SOUTH WALES



11044

Vol. 11044 Fol. 162

(Page 1) Vol. 11044 Fol. 162

Crown Grant Volume 2168 Folio 35

Prior Title Volume 7226 Folio 180



EH

Edition issued 9-5-1969

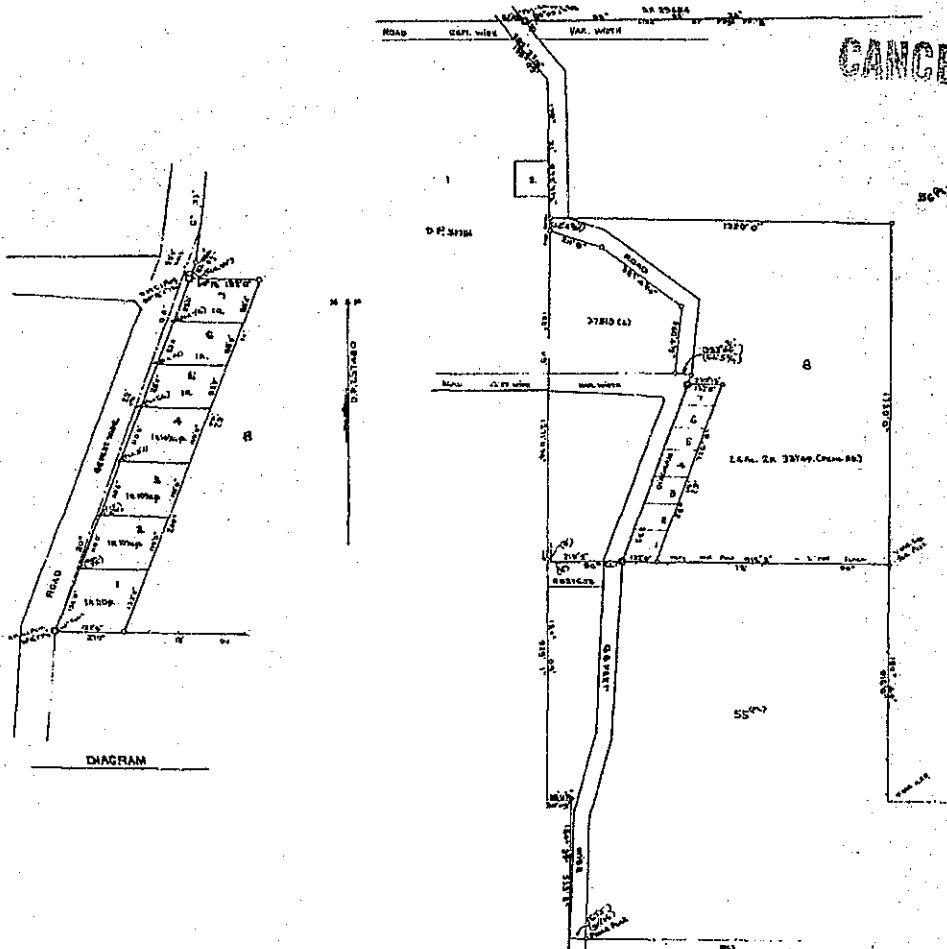
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *M. Flint*

*Jawatson*  
Registrar General.



PLAN SHOWING LOCATION OF LAND



**CANCELLED**

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 8 in Deposited Plan 237480 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grant.

FIRST SCHEDULE.

JACK STUART EASTER, of Ballina, Farmer.

SECOND SCHEDULE

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

*Jawatson*  
Registrar General.

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

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

70242183

2/2/72  
01.242/83  
(whole)  
(on road)

1

INSTRUMENT			PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER	DATE					
	M634700		Interests created pursuant to Section 56B Conveyancing Act, 1919, by the registration of Deposited Plan 242183	1-3-1972			
			The interest of the council of the Shire of Tintenbar in the new road shown on D.P. 242183.	1-3-1972			

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

**B97**

/Req: B158319

/Doc: CT 12959-145

/Prt: 26-May-2006

NEW SOUTH WALES

Crown Grants:

Vol. 1425 Fol. 36 Vol. 2180 Fol.153  
Vol. 2168 Fol. 35 Vol. 8413 Fol.195

Prior Titles:

Vol. 2180 Fol.153  
Vol. 8413 Fol.195  
Vol.11798 Fol.136of 145  
EDITION ISSUED

29 12 1975



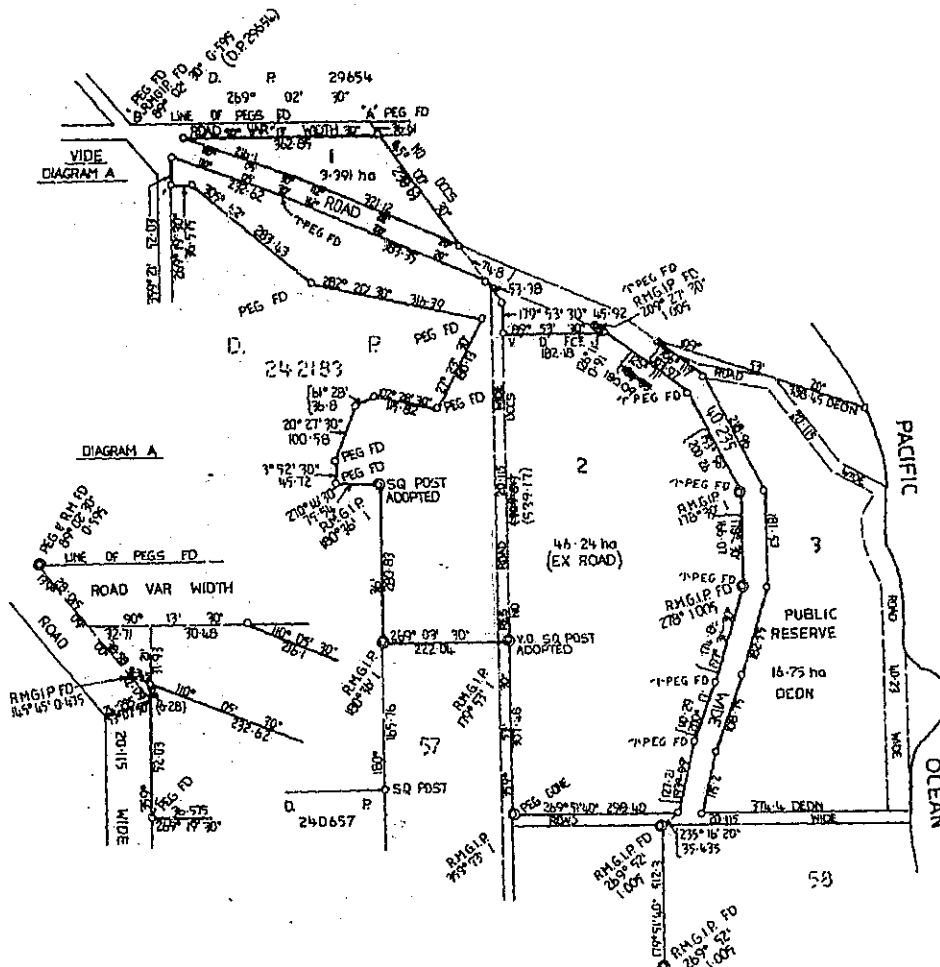
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

*Janetson*

Registrar General.

**PLAN SHOWING LOCATION OF LAND**

LENGTHS ARE IN METRES

**ESTATE AND LAND REFERRED TO**

Estate in Fee Simple in Lot 2 in Deposited Plan 573196 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Rous. EXCEPTING THEREOUT the road shown in the plan hereon and the minerals reserved by the Crown Grants.

**FIRST SCHEDULE**

STANLEY CHARLES DORRISON of Punchbowl, Clerk.

**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

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

REGISTERED PROPRIETOR

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar General
	NATURE	NUMBER	DATE		
<p>This deed is cancelled as to the whole</p> <p>New Certificates of Title have issued on 21-2-77</p> <p>for lots in <u>DP 587685</u> Plan No. <u>587685</u> as follows:-</p> <p>Lots <u>1-2</u> Vol. <u>15262</u> Fol. <u>50-51</u> respectively.</p> <p><i>[Signature]</i></p> <p>REGISTRAR GENERAL</p> 	<div>NEW CERTIFICATE(S) OF TITLE ISSUING ON <u>DP 587685</u></div> <div>NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH.</div>				

**NATURE**

[illegible]

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

9884-253-4-f.

CR 13-12-72  
DP 58-7685  
24 of (1 way  
(lot 1) L

NEW SOUTH WALES

B97

/Req: B158325

/Doc: CT 11798-136

/Prt: 26-May-2006

Fol. 136

Crown Grants Vol. 1425 Fol. 36  
Vol. 2168 Fol. 35

Prior Titles Vol. 1425 Fol. 36  
Vol. 11044 Fol. 162



Edition issued 20-3-1972

**CANCELLED**

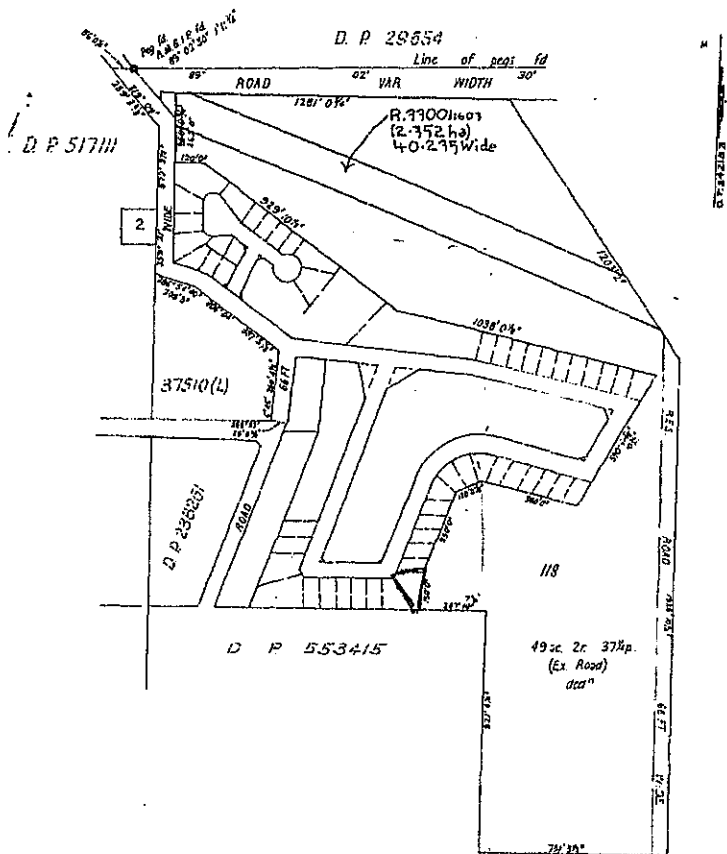
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

*Jawatson*

Registrar General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 118 in Deposited Plan 242183 at Lennox Head in the Shire of Tintenbar Parish of Ballina and County of Rous. EXCEPTING THEREOUT the minerals reserved by the Crown Grants.

FIRST SCHEDULE

~~JACK STUART EASTER of Ballina Farmer.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. ~~Restrictions as to user created by the registration of Deposited Plan 242183.~~  
See M622200 Cancelled N403817

*Jawatson*

Registrar General

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.

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

REGISTERED PROPRIETOR

NATURE

**INSTRUMENT**

NUMBER	DATE	DESCRIPTION	AMOUNT
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DATE

ENTERED

Signature of Registrar General

The residue of land in this folio comprises	
the road in DP573196	

REGISTRAR GENERAL

~~REGISTAR GENERAL~~

### PARTICULARS

ENTERED

Signature of  
Registrar General

### CANCELLATION

NATURE

INSTRUMENT
NUMBER

DATE \_\_\_\_\_

\_\_\_\_\_

~~N23104~~

~~27-4-1973~~

8:11:00 AM

1841551

The land shown by firm lines (2:35-17) 40-235 wide, on the plan shown, is Public Road Easement is limited to a depth of 15-24 meters from the surface.

25-7-1971

12-1-1474

Journal

Lawrence

Withdrawn

A197023

*Handwritten signature*

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

B97

/Req: B158324  
/Doc: CT 08413-195  
/Prt: 26-May-2006

[CERTIFICATE OF TITLE]

Primary Appn No.

Reference to Last Title

Vol. 627 Fol. 174



REGISTER BOOK

Vol. 8413 Fol. 195

M4c Issued on Transfer No. J152807

CANCELLED

JACK STUART EASTER, of Ballina, Farmer, is now the proprietor of an Estate in Fee Simple,  
subject nevertheless to the reservations and conditions, if any, contained in the Grant hereinafter referred to, and also subject to such encumbrances  
liens, and interests as are notified hereon, in That piece of land  
in the Shire of Tintenbar Parish of Ballina and County of Ross  
shown in the plan hereon being Portion 36 granted on 11th September 1882 by Crown Grant Volume 627 Folio 174.

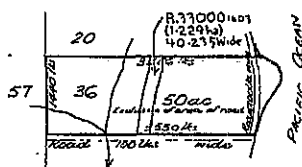
EXCEPTING THEREOUT:-

- (a) the road 200 links wide shown in the plan hereon,
- (b) the minerals reserved by the Crown Grant.

In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty-first day of November, 1962

Signed in the presence of

Registrar-General.



No. N 841551 Resumption of land for Public Road. Notice in Government Gazette dated 29th March 1974 Folio 1174 whereby and by operation of the Public Roads Act of 1902 the road shown in the plan catalogued R 33000 1603 in the Department of Lands and shown as firm lines and notation Form Lines (1:247.5) to 235 wide - var width on the plan hereon was declared to be a Public Road. Declaration limited to a depth of 152.4m. Registered 12th June 1974.

  
REGISTRAR GENERAL


Scale: 20 chains to one inch

NOTIFICATION REFERRED TO

PEC N 231104 Cancelled dated 27th April 1973  
Registered - 25th July 1973

  
18-7-1974

Registrar General

Stanley Charles Dobson of Punchbowl, Clerk is

ppw the registered proprietor of the land within described.

See TRANSFER No. 2300453 dated 6th June 1973

Entered 20th March 1974

REGISTRAR GENERAL

This deed is cancelled as to The whole road  
Now Certificate of Title have issued on 29-12-75  
for lots in deposited plan No 573196 as follows:  
Lots 1-3 Vol 13989 Folio 146 respectively.

  
REGISTRAR GENERAL


The residue of land in this folio comprised  
the road in DP 573196.

  
REGISTRAR GENERAL


THIS 26 MAY 1962 P. C. N. 8142, Government Printer

Persons are cautioned against altering or adding to this Certificate or any notification thereon.



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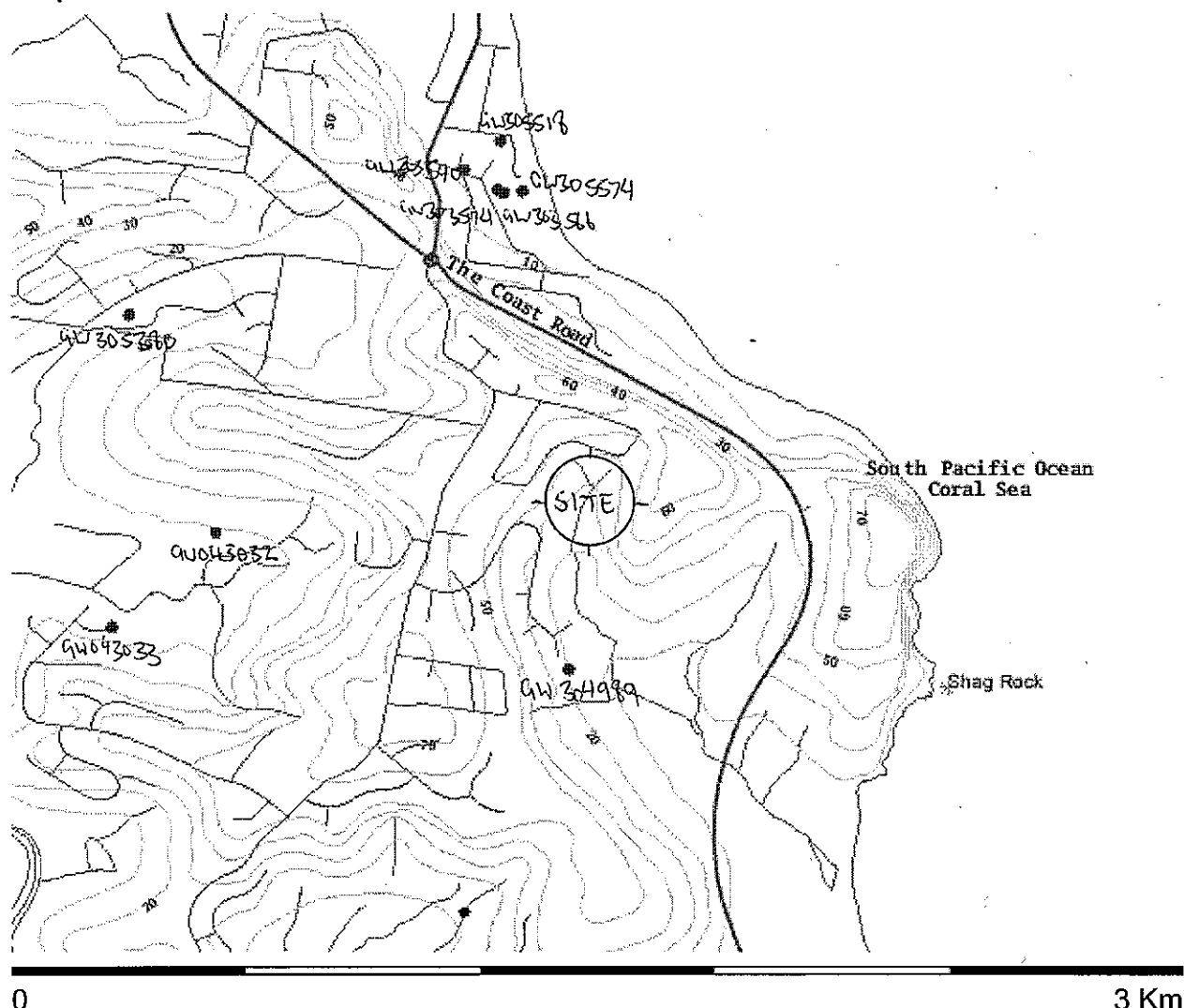
Public Service Board of New York City

Read Action note 5003 29.8.74 Fol 174

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## Map from the NSW Natural Resource Atlas



## Legend

Symbol	Layer
	Groundwater bores
	Major rivers
	Town
	Primary/arterial road
	Motorway/freeway
	Railway
	Runway
	Contour
	Background
	Topographic base map (Topoweb)

# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
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## Work Requested -- GW304989

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

GROUNDWATER NUMBER GW304989  
LIC-NUM 30BL181269  
AUTHORISED-PURPOSES DOMESTIC STOCK  
INTENDED-PURPOSES DOMESTIC STOCK  
WORK-TYPE Bore  
WORK-STATUS  
CONSTRUCTION-METHOD Rotary - Percussion (Down Hole Hammer)  
OWNER-TYPE  
COMMENCE-DATE  
COMPLETION-DATE 2004-12-06  
FINAL-DEPTH (metres) 19.00  
DRILLED-DEPTH (metres) 19.00  
CONTRACTOR-NAME  
DRILLER-NAME  
PROPERTY DOSSOR'S  
GWMA - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
STANDING-WATER-LEVEL 7.00  
SALINITY  
YIELD 1.50

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

REGION 30 - NORTH COAST  
RIVER-BASIN  
AREA-DISTRICT  
CMA-MAP  
GRID-ZONE  
SCALE  
ELEVATION  
ELEVATION-SOURCE  
NORTHING 6812477.00  
EASTING 558086.00  
LATITUDE 28 48' 50"  
LONGITUDE 153 35' 43"  
GS-MAP

AMG-ZONE 56  
 COORD-SOURCE  
 REMARK

**Form-A (top)**

no details

**Licensed (top)**

COUNTY ROUS  
 PARISH BALLINA  
 PORTION-LOT-DP 88 802588

**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	18.00	250			Rotary - Percussion (Down Hole Hammer)
1		Hole	Hole	18.00	30.00	165			Rotary - Percussion (Down Hole Hammer)
1	1	Casing	Steel - ERW	0.00	18.00	219	209.4		Welded - Butt; Seated on Bottom
1	1	Casing	PVC Class 9	0.00	19.00	140			Glued PVC Class 9; Casing - Drilled
1	1	Opening	Slots - Vertical	13.00	19.00	140			Holes; SL: 5mm; A: 100mm

**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
18.00	30.00	12.00		7.00		1.50	19.00	2.00	

**Drillers Log (top)**

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.20	1.20	soil		
1.20	4.80	3.60	clay		

4.80 19.00 14.20 basalt broken dec

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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## Work Requested -- GW043033

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

GROUNDWATER NUMBER GW043033  
LIC-NUM 30BL101704  
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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6812615.00  
EASTING 556894.00  
LATITUDE 28 48' 46"  
LONGITUDE 153 34' 59"  
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	914			(Unknown)

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

no details

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

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

---

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# Groundwater Works Summary

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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6812869.00  
EASTING 557158.00  
LATITUDE 28 48' 37"  
LONGITUDE 153 35' 9"  
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		

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6813524.00  
EASTING 556942.00  
LATITUDE 28 48' 16"  
LONGITUDE 153 35' 1"  
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		

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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6813874.00  
EASTING 557924.00  
LATITUDE 28 48' 5"  
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 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

---

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, May 25, 2006

[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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6813883.00  
EASTING 557907.00  
LATITUDE 28 48' 4"  
LONGITUDE 153 35' 36"  
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

---

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6813942.00  
EASTING 557819.00  
LATITUDE 28 48' 2"  
LONGITUDE 153 35' 33"  
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

---

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
Document Generated on Thursday, May 25, 2006

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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6814027.28  
EASTING 557914.75  
LATITUDE 28 47' 60"  
LONGITUDE 153 35' 36"  
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

---

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# Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)  
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## 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 - GUNNEDAH BASIN  
GW-ZONE - MAIN FAN AREA PRIMARY RECHARGE  
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 6813879.38  
EASTING 557972.03  
LATITUDE 28 48' 4"  
LONGITUDE 153 35' 39"  
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

---

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## APPENDIX B

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### Laboratory Test Result Sheets for Phase 1 Assessment

## CERTIFICATE OF ANALYSIS

Coffey Geosciences  
UNIT 1/222 BERKELEY ST  
Unanderra  
NSW 2526  
Site: NR1059/3

Report Number: 195159 Page 1 of 50

Order Number:

Date Received: Jun 15, 2006

Date Sampled: Jun 9, 2006

Date Reported: Jun 26, 2006

Contact: Emma Coleman

### Methods

- USEPA 6010B Heavy Metals & USEPA7470/71 Mercury
- USEPA 6020 Heavy Metals
- USEPA 8141A Organophosphorus Pesticides
- USEPA 8081A Organochlorine Pesticides
- USEPA 8270C Polycyclic Aromatic Hydrocarbons
- USEPA 8260B - MGT 350A Monocyclic Aromatic Hydrocarbons
- MGT100A-GC Total Recoverable Hydrocarbons
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- 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.

### ABBREVIATIONS

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

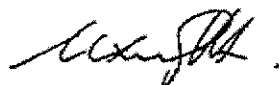
LOR : Limit of Reporting

RPD : Relative Percent Difference

CRM : Certified Reference Material

LCS : Laboratory Control Sample

Authorised



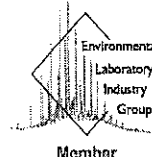
Michael Wright  
NATA Signatory  
Laboratory Manager



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.

Report Number: 195159







# Environmental Consulting Pty. Ltd.

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Telephone: (03) 9564 7055  
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Email: mgt@mgtenv.com.au

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>B1</b>
	<b>Lab Number</b>		06-JN03485	06-JN03486	06-JN03487	06-JN03488
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<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	-	-
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	%	-	87	-	-
<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	1.6	mg/kg	-	< 1.6	-	-
Chrysene-d12 (surr.)	1	%	-	110	-	-
2-Fluorobiphenyl (surr.)	1	%	-	120	-	-

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>B1</b>
	<b>Lab Number</b>		06-JN03485	06-JN03486	06-JN03487	06-JN03488
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	87	81	69	91
Tetrachloro-m-xylene (surr.)	1	%	110	100	86	110
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:



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<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>B1</b>
	<b>Lab Number</b>		<b>06-JN03485</b>	<b>06-JN03486</b>	<b>06-JN03487</b>	<b>06-JN03488</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	110	96	110	83
% Moisture	0.1	%	38	35	42	37
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	< 2	< 2	3.1	2.5
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	60	72	40	40
Copper	5	mg/kg	27	17	19	16
Lead	5	mg/kg	9.0	8.5	13	11
Nickel	5	mg/kg	29	20	22	25
Zinc	5	mg/kg	68	55	88	59
<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 Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		A1	A2	A3	B1
	Lab Number		06-JN03485	06-JN03486	06-JN03487	06-JN03488
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1

COMMENTS:

Coffey Geosciences

Client Sample ID		B2	B3	C1	C2
Lab Number		06-JN03489	06-JN03490	06-JN03491	06-JN03492
Matrix		Soil	Soil	Soil	Soil
Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
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	%	-	80	110
<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	1.6	mg/kg	-	< 1.6	< 1.6
Chrysene-d12 (surr.)	1	%	-	110	100
2-Fluorobiphenyl (surr.)	1	%	-	120	100

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>B2</b>	<b>B3</b>	<b>C1</b>	<b>C2</b>
	<b>Lab Number</b>		06-JN03489	06-JN03490	06-JN03491	06-JN03492
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	89	92	120	81
Tetrachloro-m-xylene (surr.)	1	%	110	110	110	96
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>B2</b>	<b>B3</b>	<b>C1</b>	<b>C2</b>
	<b>Lab Number</b>		06-JN03489	06-JN03490	06-JN03491	06-JN03492
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	95	86	120	120
% Moisture	0.1	%	36	45	42	30
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	2.2	2.5	2.1	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	58	24	28	51
Copper	5	mg/kg	22	24	22	14
Lead	5	mg/kg	9.1	11	11	5.7
Nickel	5	mg/kg	28	24	26	31
Zinc	5	mg/kg	69	110	91	61
<b>Heavy Metals</b>						

COMMENTS:



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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		B2	B3	C1	C2
	Lab Number		06-JN03489	06-JN03490	06-JN03491	06-JN03492
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:



Coffey Geosciences

Client Sample ID		C3	D1	D2	D3
Lab Number		06-JN03493	06-JN03494	06-JN03495	06-JN03496
Matrix		Soil	Soil	Soil	Soil
Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
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	%	-	100	-
<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	1.6	mg/kg	-	< 1.6	-
Chrysene-d12 (surr.)	1	%	-	99	-
2-Fluorobiphenyl (surr.)	1	%	-	120	-

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>C3</b>	<b>D1</b>	<b>D2</b>	<b>D3</b>
	<b>Lab Number</b>		<b>06-JN03493</b>	<b>06-JN03494</b>	<b>06-JN03495</b>	<b>06-JN03496</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	100	110	99	82
Tetrachloro-m-xylene (surr.)	1	%	120	120	110	89
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>C3</b>	<b>D1</b>	<b>D2</b>	<b>D3</b>
	<b>Lab Number</b>		06-JN03493	06-JN03494	06-JN03495	06-JN03496
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	90	110	89	130
% Moisture	0.1	%	38	40	32	45
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	2.7	2.7	< 2	2.9
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	55	27	50	58
Copper	5	mg/kg	18	20	18	25
Lead	5	mg/kg	13	10	7.2	14
Nickel	5	mg/kg	19	20	16	33
Zinc	5	mg/kg	63	72	41	100
<b>Heavy Metals</b>						

COMMENTS:



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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		C3	D1	D2	D3
	Lab Number		06-JN03493	06-JN03494	06-JN03495	06-JN03496
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Coffey Geosciences

Client Sample ID		D4	E1	E2	E3
Lab Number		06-JN03497	06-JN03498	06-JN03499	06-JN03500
Matrix		Soil	Soil	Soil	Soil
Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
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	%	-	-	110
<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	1.6	mg/kg	-	-	< 1.6
Chrysene-d12 (surr.)	1	%	-	-	88
2-Fluorobiphenyl (surr.)	1	%	-	-	98

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>D4</b>	<b>E1</b>	<b>E2</b>	<b>E3</b>
	<b>Lab Number</b>		06-JN03497	06-JN03498	06-JN03499	06-JN03500
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	82	78	80	75
Tetrachloro-m-xylene (surr.)	1	%	93	85	99	89
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>D4</b>	<b>E1</b>	<b>E2</b>	<b>E3</b>
	<b>Lab Number</b>		<b>06-JN03497</b>	<b>06-JN03498</b>	<b>06-JN03499</b>	<b>06-JN03500</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	120	110	100	93
% Moisture	0.1	%	37	41	46	39
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	2.7	2.7	< 2	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	38	32	44	43
Copper	5	mg/kg	22	25	24	23
Lead	5	mg/kg	8.7	9.7	7.8	6.9
Nickel	5	mg/kg	24	32	26	23
Zinc	5	mg/kg	84	120	120	110
<b>Heavy Metals</b>						

COMMENTS:

Coffey Geosciences  UNIT 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		D4	E1	E2	E3
	Lab Number		06-JN03497	06-JN03498	06-JN03499	06-JN03500
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1



Coffey Geosciences

Client Sample ID	E4	E5	F1	F2
Lab Number	06-JN03501	06-JN03502	06-JN03503	06-JN03504
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
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	%	-	98
<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	1.6	mg/kg	-	< 1.6
Chrysene-d12 (surr.)	1	%	-	96
2-Fluorobiphenyl (surr.)	1	%	-	100

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>E4</b>	<b>E5</b>	<b>F1</b>	<b>F2</b>
	<b>Lab Number</b>		<b>06-JN03501</b>	<b>06-JN03502</b>	<b>06-JN03503</b>	<b>06-JN03504</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	87	66	76	76
Tetrachloro-m-xylene (surr.)	1	%	110	130	82	86
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>E4</b>	<b>E5</b>	<b>F1</b>	<b>F2</b>
	<b>Lab Number</b>		<b>06-JN03501</b>	<b>06-JN03502</b>	<b>06-JN03503</b>	<b>06-JN03504</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	100	89	100	94
% Moisture	0.1	%	38	37	32	42
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	2.3	2.2	2.1	2.9
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	35	43	29	36
Copper	5	mg/kg	24	27	26	24
Lead	5	mg/kg	7.6	14	14	10
Nickel	5	mg/kg	35	22	26	24
Zinc	5	mg/kg	97	94	140	95
<b>Heavy Metals</b>						

COMMENTS:



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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		E4	E5	F1	F2
	Lab Number		06-JN03501	06-JN03502	06-JN03503	06-JN03504
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Coffey Geosciences

Client Sample ID	F3	F4	G1	H1
Lab Number	06-JN03505	06-JN03506	06-JN03507	06-JN03508
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
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	%	-	90
<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	1.6	mg/kg	-	< 1.6
Chrysene-d12 (surr.)	1	%	-	100
2-Fluorobiphenyl (surr.)	1	%	-	100

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>F3</b>	<b>F4</b>	<b>G1</b>	<b>H1</b>
	<b>Lab Number</b>		<b>06-JN03505</b>	<b>06-JN03506</b>	<b>06-JN03507</b>	<b>06-JN03508</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	84	76	85	93
Tetrachloro-m-xylene (surr.)	1	%	91	82	96	120
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>F3</b>	<b>F4</b>	<b>G1</b>	<b>H1</b>
	<b>Lab Number</b>		<b>06-JN03505</b>	<b>06-JN03506</b>	<b>06-JN03507</b>	<b>06-JN03508</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	110	94	120	91
% Moisture	0.1	%	36	34	38	34
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	< 2	3.0	4.2	3.0
Cadmium	0.5	mg/kg	< 0.5	< 0.5	1.1	< 0.5
Chromium	5	mg/kg	41	35	26	23
Copper	5	mg/kg	23	24	45	27
Lead	5	mg/kg	7.8	8.8	58	12
Nickel	5	mg/kg	23	35	34	21
Zinc	5	mg/kg	78	82	1600	100
<b>Heavy Metals</b>						

COMMENTS:



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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		F3	F4	G1	H1
	Lab Number		06-JN03505	06-JN03506	06-JN03507	06-JN03508
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1

COMMENTS:



Coffey Geosciences

Client Sample ID		S1	S2	S3	S4
UNIT 1/222 BERKELEY ST	Lab Number	06-JN03509	06-JN03510	06-JN03511	06-JN03512
Unanderra	Matrix	Soil	Soil	Soil	Soil
NSW 2526	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units			
<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	< 0.05	< 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	%	97	120	110
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Chrysene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Fluorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Total PAH	1.6	mg/kg	< 1.6	< 1.6	< 1.6
Chrysene-d12 (surr.)	1	%	88	92	84
2-Fluorobiphenyl (surr.)	1	%	98	98	100

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>
	<b>Lab Number</b>		06-JN03509	06-JN03510	06-JN03511	06-JN03512
	<b>Matrix</b>		Soil	Soil	Soil	Soil
	<b>Sample Date</b>		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
<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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	76	71	66	65
Tetrachloro-m-xylene (surr.)	1	%	89	84	79	84
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

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<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>
	<b>Lab Number</b>		<b>06-JN03509</b>	<b>06-JN03510</b>	<b>06-JN03511</b>	<b>06-JN03512</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	84	100	94	86
% Moisture	0.1	%	39	38	40	43
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	3.6	2.6	2.7	3.7
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	30	23	20	21
Copper	5	mg/kg	31	31	32	37
Lead	5	mg/kg	15	9.2	12	11
Nickel	5	mg/kg	31	26	23	25
Zinc	5	mg/kg	120	120	130	140
<b>Heavy Metals</b>						

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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		S1	S2	S3	S4
	Lab Number		06-JN03509	06-JN03510	06-JN03511	06-JN03512
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:

Coffey Geosciences

	Client Sample ID		S5	S6	S7	DUP1
UNI T 1/222 BERKELEY ST	Lab Number		06-JN03513	06-JN03514	06-JN03515	06-JN03516
Unanderra	Matrix		Soil	Soil	Soil	Soil
NSW 2526	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
<b>Total Recoverable Hydrocarbons</b>						
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
<b>Monocyclic Aromatic Hydrocarbons</b>						
Benzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes(ortho,meta and para)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Fluorobenzene (surr.)	1	%	100	120	110	82
<b>Polycyclic Aromatic Hydrocarbons</b>						
Acenaphthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6
Chrysene-d12 (surr.)	1	%	87	89	85	110
2-Fluorobiphenyl (surr.)	1	%	91	120	110	100

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>S5</b>	<b>S6</b>	<b>S7</b>	<b>DUP1</b>
	<b>Lab Number</b>		<b>06-JN03513</b>	<b>06-JN03514</b>	<b>06-JN03515</b>	<b>06-JN03516</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</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	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	62	64	62	65
Tetrachloro-m-xylene (surr.)	1	%	87	80	100	84
<b>Organophosphorous Pesticides</b>						
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

COMMENTS:



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<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>S5</b>	<b>S6</b>	<b>S7</b>	<b>DUP1</b>
	<b>Lab Number</b>		<b>06-JN03513</b>	<b>06-JN03514</b>	<b>06-JN03515</b>	<b>06-JN03516</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	96	89	120	96
% Moisture	0.1	%	39	36	32	37
<b>Heavy Metals (7)</b>						
Arsenic	2	mg/kg	2.3	3.6	3.1	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	21	25	22	71
Copper	5	mg/kg	31	34	35	17
Lead	5	mg/kg	12	12	16	7.5
Nickel	5	mg/kg	25	25	26	22
Zinc	5	mg/kg	120	140	160	67
<b>Heavy Metals</b>						

COMMENTS:

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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		S5	S6	S7	DUP1
	Lab Number		06-JN03513	06-JN03514	06-JN03515	06-JN03516
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units				
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

COMMENTS:



Coffey Geosciences

Client Sample ID		DUP2	DUP3	WB1
Lab Number		06-JN03517	06-JN03518	06-JN03519
Matrix		Soil	Soil	Water
Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units		
<b>Total Recoverable Hydrocarbons</b>				
TRH C6-C9 Fraction by GC	20	mg/kg	< 20	< 0.02
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 0.05
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 0.1
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 0.1
<b>Monocyclic Aromatic Hydrocarbons</b>				
Benzene	0.05	mg/kg	< 0.05	< 0.001
Toluene	0.05	mg/kg	< 0.05	< 0.001
Ethylbenzene	0.05	mg/kg	< 0.05	< 0.001
Xylenes(ortho.meta and para)	0.05	mg/kg	< 0.05	< 0.001
Fluorobenzene (surr.)	1	%	110	91
<b>Polycyclic Aromatic Hydrocarbons</b>				
Acenaphthene	0.1	mg/kg	< 0.1	< 0.0002
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.0002
Anthracene	0.1	mg/kg	< 0.1	< 0.0002
Benz(a)anthracene	0.1	mg/kg	< 0.1	< 0.0002
Benzo(a)pyrene	0.1	mg/kg	< 0.1	< 0.0002
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	< 0.0002
Benzo(g,h,i)perylene	0.1	mg/kg	< 0.1	< 0.0002
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.0002
Chrysene	0.1	mg/kg	< 0.1	< 0.0002
Dibenz(a,h)anthracene	0.1	mg/kg	< 0.1	< 0.0002
Fluoranthene	0.1	mg/kg	< 0.1	< 0.0002
Fluorene	0.1	mg/kg	< 0.1	< 0.0002
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.0002
Naphthalene	0.1	mg/kg	< 0.1	< 0.0002
Phenanthrene	0.1	mg/kg	< 0.1	< 0.0002
Pyrene	0.1	mg/kg	< 0.1	< 0.0002
Total PAH	1.6	mg/kg	< 1.6	< 0.0032
Chrysene-d12 (surr.)	1	%	82	85
2-Fluorobiphenyl (surr.)	1	%	80	76

COMMENTS:

<b>Coffey Geosciences</b> <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>DUP2</b>	<b>DUP3</b>	<b>WB1</b>
	<b>Lab Number</b>		<b>06-JN03517</b>	<b>06-JN03518</b>	<b>06-JN03519</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Water</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</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	< 0.0001
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.0005
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.0001
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.0005
Dibutylchlorendate (surr.)	1	%	63	70	100
Tetrachloro-m-xylene (surr.)	1	%	85	85	85
<b>Organophosphorous Pesticides</b>					
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Coumaphos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.002

COMMENTS:

<b>Coffey Geosciences</b>  <b>UNI T 1/222 BERKELEY ST</b> <b>Unanderra</b> <b>NSW 2526</b>	<b>Client Sample ID</b>		<b>DUP2</b>	<b>DUP3</b>	<b>WB1</b>
	<b>Lab Number</b>		<b>06-JN03517</b>	<b>06-JN03518</b>	<b>06-JN03519</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Water</b>
	<b>Sample Date</b>		<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>	<b>Jun 9, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>			
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Methyl azinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.002
Triphenylphosphate (surr.)	1	%	86	110	86
% Moisture	0.1	%	37	33	
<b>Heavy Metals (7)</b>					
Arsenic	2	mg/kg	2.7	3.0	< 0.001
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.0002
Chromium	5	mg/kg	25	22	< 0.001
Copper	5	mg/kg	29	30	< 0.001
Lead	5	mg/kg	15	11	< 0.001
Nickel	5	mg/kg	24	24	< 0.001
Zinc	5	mg/kg	100	97	< 0.001
<b>Heavy Metals</b>					

COMMENTS:



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Coffey Geosciences UNI T 1/222 BERKELEY ST Unanderra NSW 2526	Client Sample ID		DUP2	DUP3	WB1
	Lab Number		06-JN03517	06-JN03518	06-JN03519
	Matrix		Soil	Soil	Water
	Sample Date		Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	LOR	Units			
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.0001

COMMENTS:

Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	A1	A1	A1	A1	Method blank
	Lab Number	06-JN03485	06-JN03485	06-JN03485	06-JN03485	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery	mg/L
<b>Organochlorine Pesticides</b>						
4,4'-DDD		< 0.05	< 0.05	<1	-	< 0.005
4,4'-DDE		< 0.05	< 0.05	<1	-	< 0.005
4,4'-DDT		< 0.05	< 0.05	<1	-	< 0.005
a-BHC		< 0.05	< 0.05	<1	-	< 0.005
Aldrin		< 0.05	< 0.05	<1	-	< 0.005
b-BHC		< 0.05	< 0.05	<1	-	< 0.005
Chlordane		< 0.1	< 0.1	<1	-	< 0.01
d-BHC		< 0.05	< 0.05	<1	-	< 0.005
Dieldrin		< 0.05	< 0.05	<1	-	< 0.005
Endosulfan I		< 0.05	< 0.05	<1	-	< 0.005
Endosulfan II		< 0.05	< 0.05	<1	-	< 0.005
Endosulfan sulphate		< 0.05	< 0.05	<1	-	< 0.005
Endrin		< 0.05	< 0.05	<1	-	< 0.005
Endrin aldehyde		< 0.05	< 0.05	<1	-	< 0.005
Endrin ketone		< 0.05	< 0.05	<1	-	< 0.005
g-BHC (Lindane)		< 0.05	< 0.05	<1	-	< 0.005
Heptachlor		< 0.05	< 0.05	<1	-	< 0.005
Heptachlor epoxide		< 0.05	< 0.05	<1	-	< 0.005
Hexachlorobenzene		< 0.05	< 0.05	<1	-	< 0.005
Methoxychlor		< 0.05	< 0.05	<1	-	< 0.005
Toxophene		< 0.1	< 0.1	<1	-	< 0.01
Dibutylchlorodate (surr.)		87	93	-	-	82
Tetrachloro-m-xylene (surr.)		110	120	-	-	79
<b>Heavy Metals (Z)</b>						
Arsenic		< 2	< 2	<1	79	< 0.02
Cadmium		< 0.5	< 0.5	<1	98	< 0.02
Chromium		60	61	2.7	90	< 0.05
Copper		27	27	<1	106	< 0.05

COMMENTS:

Mercury

Client Sample	A1	A1	A1	A1	Method blank
Lab Number	06-JN03485	06-JN03485	06-JN03485	06-JN03485	Batch
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Units			% RPD	% Recovery	mg/L
	9.0	11	22	88	< 0.05
	29	32	7.0	77	< 0.05
	68	71	5.9	93	< 0.05
	< 0.1	< 0.1	10	93	< 0.005

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Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	A2	A2	A2	A2	Method blank
	Lab Number	06-JN03486	06-JN03486	06-JN03486	06-JN03486	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery	mg/L
Total Recoverable Hydrocarbons						
TRH C6-C9 Fraction by GC		-	-	<1	103	< 0.02
TRH C10-C14 Fraction by GC		-	-	-	-	< 0.05
TRH C15-C28 Fraction by GC		-	-	-	-	< 0.1
TRH C29-C36 Fraction by GC		-	-	-	-	< 0.1
Monocyclic Aromatic Hydrocarbons						
Benzene		< 0.05	< 0.05	<1	129	< 0.005
Toluene		< 0.05	< 0.05	<1	107	< 0.005
Ethylbenzene		< 0.05	< 0.05	<1	92	< 0.005
Xylenes(ortho,meta and para)		< 0.05	< 0.05	<1	103	< 0.005
Fluorobenzene (surr.)		87	96	-	100	96
Polycyclic Aromatic Hydrocarbons						
Acenaphthene		< 0.1	< 0.1	<1	-	< 0.001
Acenaphthylene		< 0.1	< 0.1	<1	-	< 0.001
Anthracene		< 0.1	< 0.1	<1	-	< 0.001
Benz(a)anthracene		< 0.1	< 0.1	<1	-	< 0.001
Benzo(a)pyrene		< 0.1	< 0.1	<1	-	< 0.001
Benzo(b)fluoranthene		< 0.1	< 0.1	<1	-	< 0.001
Benzo(g,h,i)perylene		< 0.1	< 0.1	<1	-	< 0.001
Benzo(k)fluoranthene		< 0.1	< 0.1	<1	-	< 0.001
Chrysene		< 0.1	< 0.1	<1	-	< 0.001
Dibenz(a,h)anthracene		< 0.1	< 0.1	<1	-	< 0.001
Fluoranthene		< 0.1	< 0.1	<1	-	< 0.001
Fluorene		< 0.1	< 0.1	<1	-	< 0.001
Indeno(1,2,3-cd)pyrene		< 0.1	< 0.1	<1	-	< 0.001
Naphthalene		< 0.1	< 0.1	<1	-	< 0.001
Phenanthrene		< 0.1	< 0.1	<1	-	< 0.001
Pyrene		< 0.1	< 0.1	<1	-	< 0.001
Total PAH		< 1.6	< 1.6	-	-	< 0.016

COMMENTS:

Coffey Geosciences  
 UNI T 1/222 BERKELEY ST  
 Unanderra  
 NSW 2526

Client Sample	A2	A2	A2	A2	Method blank
Lab Number	06-JN03486	06-JN03486	06-JN03486	06-JN03486	Batch
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	
Matrix	Soil	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units		% RPD	% Recovery	mg/L
<b>Polycyclic Aromatic Hydrocarbons</b>					
Chrysene-d12 (surr.)	110	99	-	-	93
2-Fluorobiphenyl (surr.)	120	86	-	-	130
<b>Organophosphorous Pesticides</b>					
Bóistar	< 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	-	< 0.002
Dichlorvos	< 0.2	< 0.2	<1	-	< 0.002
Disulfoton	< 0.2	< 0.2	<1	-	< 0.002
Ethion	< 0.2	< 0.2	<1	-	< 0.002
Ethoprop	< 0.2	< 0.2	<1	-	< 0.002
Fenitrothion	< 0.2	< 0.2	<1	-	< 0.002
Fensulfothion	< 0.2	< 0.2	<1	-	< 0.002
Fenthion	< 0.2	< 0.2	<1	-	< 0.002
Merphos	< 0.2	< 0.2	<1	-	< 0.002
Methyl azinphos	< 0.2	< 0.2	<1	-	< 0.002
Methyl parathion	< 0.2	< 0.2	<1	-	< 0.002
Mevinphos	< 0.2	< 0.2	<1	-	< 0.002
Naled	< 0.2	< 0.2	<1	-	< 0.002
Phorate	< 0.2	< 0.2	<1	-	< 0.002
Ronnel	< 0.2	< 0.2	<1	-	< 0.002
Tokuthion	< 0.2	< 0.2	<1	-	< 0.002
Trichloronate	< 0.2	< 0.2	<1	-	< 0.002
Triphenylphosphate (surr.)	96	87	-	-	110

COMMENTS:



COMMENTS:

Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	D2	D2	D2	D2
	Lab Number	06-JN03495	06-JN03495	06-JN03495	06-JN03495
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery
<b>Organochlorine Pesticides</b>					
4,4'-DDD		< 0.05	< 0.05	<1	-
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	-
Dibutylchlorodate (surr.)		99	96	-	-
Tetrachloro-m-xylene (surr.)		110	110	-	-
<b>Heavy Metals (7)</b>					
Arsenic		< 2	< 2	<1	77
Cadmium		< 0.5	< 0.5	<1	96
Chromium		50	47	4.1	89
Copper		18	18	2.2	109

COMMENTS:

Mercury

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Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	F3	F3	F3	F3
	Lab Number	06-JN03505	06-JN03505	06-JN03505	06-JN03505
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery
<b>Organochlorine Pesticides</b>					
4,4'-DDD		< 0.05	< 0.05	<1	85
4,4'-DDE		< 0.05	< 0.05	<1	115
4,4'-DDT		< 0.05	< 0.05	<1	92
a-BHC		< 0.05	< 0.05	<1	106
Aldrin		< 0.05	< 0.05	<1	130
b-BHC		< 0.05	< 0.05	<1	94
Chlordane		< 0.1	< 0.1	<1	-
d-BHC		< 0.05	< 0.05	<1	107
Dieldrin		< 0.05	< 0.05	<1	116
Endosulfan I		< 0.05	< 0.05	<1	95
Endosulfan II		< 0.05	< 0.05	<1	100
Endosulfan sulphate		< 0.05	< 0.05	<1	99
Endrin		< 0.05	< 0.05	<1	103
Endrin aldehyde		< 0.05	< 0.05	<1	114
Endrin ketone		< 0.05	< 0.05	<1	95
g-BHC (Lindane)		< 0.05	< 0.05	<1	98
Heptachlor		< 0.05	< 0.05	<1	130
Heptachlor epoxide		< 0.05	< 0.05	<1	107
Hexachlorobenzene		< 0.05	< 0.05	<1	103
Methoxychlor		< 0.05	< 0.05	<1	94
Toxophene		< 0.1	< 0.1	<1	-
Dibutylchloredate (surr.)		84	77	-	-
Tetrachloro-m-xylene (surr.)		91	96	-	-
<b>Organophosphorous Pesticides</b>					
Bolstar		< 0.2	< 0.2	-	-
Chlorpyrifos		< 0.2	< 0.2	-	-
Coumaphos		< 0.2	< 0.2	-	-
Diazinon		< 0.2	< 0.2	-	-

COMMENTS:

Coffey Geosciences  
 UNI T 1/222 BERKELEY ST  
 Unanderra  
 NSW 2526

Client Sample	F3	F3	F3	F3
Lab Number	06-JN03505	06-JN03505	06-JN03505	06-JN03505
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units		% RPD	% Recovery
Organophosphorous Pesticides				
Disulfoton	< 0.2	< 0.2	-	-
Ethion	< 0.2	< 0.2	-	98
Fenitrothion	< 0.2	< 0.2	-	105
Fensulfothion	< 0.2	< 0.2	-	93
Fenthion	< 0.2	< 0.2	-	-
Merphos	< 0.2	< 0.2	-	-
Methyl azinphos	< 0.2	< 0.2	-	-
Methyl parathion	< 0.2	< 0.2	-	107
Ronnel	< 0.2	< 0.2	-	-
Tokuthion	< 0.2	< 0.2	-	-
Trichloronate	< 0.2	< 0.2	-	-
Triphenylphosphate (surr.)	110	110	-	88
Heavy Metals (7)				
Arsenic	< 2	2.8	<1	81
Cadmium	< 0.5	< 0.5	<1	88
Chromium	41	42	4.8	77
Copper	23	23	<1	95
Lead	7.8	6.4	19	76
Nickel	23	23	<1	77
Zinc	78	77	3.0	84
Heavy Metals				
Mercury	0.1	0.1	14	77

COMMENTS:

Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	S3	S3	S3	S3
	Lab Number	06-JN03511	06-JN03511	06-JN03511	06-JN03511
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery
Total Recoverable Hydrocarbons					
TRH C10-C14 Fraction by GC		< 50	< 50	<1	87
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	129
Toluene		< 0.05	< 0.05	<1	106
Ethylbenzene		< 0.05	< 0.05	<1	91
Xylenes(ortho.meta and para)		< 0.05	< 0.05	<1	101
Fluorobenzene (surr.)		110	110	-	121
Polycyclic Aromatic Hydrocarbons					
Acenaphthene		< 0.1	< 0.1	<1	107
Acenaphthylene		< 0.1	< 0.1	<1	97
Anthracene		< 0.1	< 0.1	<1	105
Benz(a)anthracene		< 0.1	< 0.1	<1	101
Benzo(a)pyrene		< 0.1	< 0.1	<1	92
Benzo(b)fluoranthene		< 0.1	< 0.1	<1	108
Benzo(g,h,i)perylene		< 0.1	< 0.1	<1	114
Benzo(k)fluoranthene		< 0.1	< 0.1	<1	113
Chrysene		< 0.1	< 0.1	<1	108
Dibenz(a,h)anthracene		< 0.1	< 0.1	<1	92
Fluoranthene		< 0.1	< 0.1	<1	100
Fluorene		< 0.1	< 0.1	<1	108
Indeno(1,2,3-cd)pyrene		< 0.1	< 0.1	<1	101
Naphthalene		< 0.1	< 0.1	<1	107
Phenanthrene		< 0.1	< 0.1	<1	113
Pyrene		< 0.1	< 0.1	<1	110
Total PAH		< 1.6	< 1.6	-	-
Chrysene-d12 (surr.)		84	96	-	89

COMMENTS:

Coffey Geosciences  
 UNIT 1/222 BERKELEY ST  
 Unanderra  
 NSW 2526

Client Sample	S3	S3	S3	S3
Lab Number	06-JN03511	06-JN03511	06-JN03511	06-JN03511
QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
Matrix	Soil	Soil	Soil	Soil
Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units		% RPD	% Recovery
Polycyclic Aromatic Hydrocarbons				
2-Fluorobiphenyl (surr.)	100	94	-	103
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	-
Dichlorvos	< 0.2	< 0.2	<1	-
Disulfoton	< 0.2	< 0.2	<1	-
Ethion	< 0.2	< 0.2	<1	-
Ethoprop	< 0.2	< 0.2	<1	-
Fenitrothion	< 0.2	< 0.2	<1	-
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	-
Mevinphos	< 0.2	< 0.2	<1	-
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	-
Triphenylphosphate (surr.)	94	100	-	-

COMMENTS:

Coffey Geosciences  UNI T 1/222 BERKELEY ST Unanderra  NSW 2526	Client Sample ID	S7	S7	S7	S7
	Lab Number	06-JN03515	06-JN03515	06-JN03515	06-JN03515
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006	Jun 9, 2006
Analysis Type	Units			% RPD	% Recovery
Organochlorine Pesticides					
4,4'-DDD		< 0.05	< 0.05	<1	85
4,4'-DDE		< 0.05	< 0.05	<1	77
4,4'-DDT		< 0.05	< 0.05	<1	85
a-BHC		< 0.05	< 0.05	<1	103
Aldrin		< 0.05	< 0.05	<1	129
b-BHC		< 0.05	< 0.05	<1	75
Chlordane		< 0.1	< 0.1	<1	-
d-BHC		< 0.05	< 0.05	<1	100
Dieldrin		< 0.05	< 0.05	<1	83
Endosulfan I		< 0.05	< 0.05	<1	89
Endosulfan II		< 0.05	< 0.05	<1	85
Endosulfan sulphate		< 0.05	< 0.05	<1	77
Endrin		< 0.05	< 0.05	<1	84
Endrin aldehyde		< 0.05	< 0.05	<1	96
Endrin ketone		< 0.05	< 0.05	<1	76
g-BHC (Lindane)		< 0.05	< 0.05	<1	75
Heptachlor		< 0.05	< 0.05	<1	129
Heptachlor epoxide		< 0.05	< 0.05	<1	107
Hexachlorobenzene		< 0.05	< 0.05	<1	99
Methoxychlor		< 0.05	< 0.05	<1	85
Toxophene		< 0.1	< 0.1	<1	-
Dibutylchlorendate (surr.)		62	72	-	-
Tetrachloro-m-xylene (surr.)		100	120	-	-
Heavy Metals					
Mercury		< 0.1	< 0.1	16	92

COMMENTS:



COMMENTS:

## Chain of Custody

Laboratory Quotation / Order No:

Job No: NR1059/3

No: 34158

Sheet 1 of 3

Dispatch to: MET

(Address &  
Phone No.)

Sampled by: ALB

Consigning Officer: ABRM

Date Dispatched: 13/6/06

Attention:

Project Manager: P. Smith - Colfax  
(report results to) Colfax

Courier Service:

Consignment Note No:

Relinquished by:

Date:

Time:

Received by:

Date:

Time:

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	Analyses Required					Sample Condition on Receipt
					PAHs	TPHs	MAHs = BTEX	Metals	OC	
			AS165	16/06	/	/	/	/	/	
			AS169		/	/	/	/	/	
			AS170		/	/	/	/	/	
			AS171		/	/	/	/	/	
			AS172		/	/	/	/	/	
			AS173		/	/	/	/	/	
			AS174		/	/	/	/	/	
			AS175		/	/	/	/	/	
			AS176		/	/	/	/	/	
			AS177		/	/	/	/	/	
			AS178		/	/	/	/	/	
			AS179		/	/	/	/	/	
			AS180		/	/	/	/	/	
			AS181		/	/	/	/	/	
			AS182		/	/	/	/	/	
			AS183		/	/	/	/	/	
			AS184		/	/	/	/	/	

Special Laboratory Instructions

Detection Limits:

Turnaround Required:

JOB NUMBER MUST BE  
REFERENCED ON ALL  
SUBSEQUENT PAGES

Copies: WHITE: Sign on release YELLOW: If dispatched to interstate Lab. Lab to sign on receipt and fax back to Coffey BLUE: To be returned with results

Coffey

## Chain of Custody

Laboratory Quotation / Order No:

Job No: NR1059/3

No: 34159

Sheet 2 of 3

Dispatch to  
(Address &  
Phone No.)

Sampled by: ALB

Consigning Officer: ALB

Date Dispatched: 13/6/06

Attention: Lab Manager

Project Manager:  
(report results to)  
Com. 60

Courier Service:

Consignment Note No:

Relinquished by:

Date:

Time:

Received by:

Date:

Time:

Coffey

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	Analyses Required					Sample Condition on Receipt
					PAHS	TPHS	MAHS = BTEX	Metals: As, Cd, Cr, Cu, Pb, Ni, Zn, Hg		
10.1 Soil for unpreserved			AS185	7/4/06	/	/	/	/	/	195159
F1			AA186		/	/	/	/	/	
F2			AB187		/	/	/	/	/	
F3			AG188		/	/	/	/	/	
F4			AA189		/	/	/	/	/	
G1			AB190		/	/	/	/	/	
H1			AB191	12/6/06	/	/	/	/	/	
I1			AB192		/	/	/	/	/	
J1			AB193		/	/	/	/	/	
K3			AB194		/	/	/	/	/	
L4			AB195		/	/	/	/	/	
M5			AB196		/	/	/	/	/	
N6			AA197		/	/	/	/	/	
O7			AB198		/	/	/	/	/	
P1			AB199		/	/	/	/	/	
Q2			AB200		/	/	/	/	/	
R3			AB201		/	/	/	/	/	

Special Laboratory Instructions:

Detection Limits

Turnaround Required:

JOB NUMBER MUST BE  
REFERENCED ON ALL  
SUBSEQUENT PAGES

Copies: WHITE: Sign on release YELLOW: If dispatched to interstate Lab. Lab to sign on receipt and fax back to Coffey BLUE: To be returned with results

## Chain of Custody

Laboratory Quotation / Order No:

Job No: *NR1054/3*No: **34160**Sheet *5* of *5*Dispatch to: *1167*  
(Address &  
Phone No)Sampled by: *ALB*Consigning Officer: *ALB*Date Dispatched: *13/6/06*

Attention:

Project Manager:  
(report results to) *Fiona Coleman @ City*

Courier Service:

Consignment Note No:

Relinquished by

Date:

Time:

Received by:

Date:

Time:

*C. Mains**15/6/06**195159*

Comments

Sample Matrix

Container Type  
and Preservative

Sample No.

Date Sampled

PAHs

TPHs

MAHs = BTEX

Metals:

Analyses Required

Sample  
Condition  
on Receipt*1167**1167**18202**14/6/06*

Special Laboratory Instructions:

Detection Limits:

Turnaround Required:

Copies: WHITE: Sign on release YELLOW: If dispatched to interstate Lab Lab to sign on receipt and fax back to Coffey BLUE: To be returned with results

JOB NUMBER MUST BE  
REFERENCED ON ALL  
SUBSEQUENT PAGESCoffey

## APPENDIX C

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### Laboratory Test Result Sheets for Phase 2 Assessment

## CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd  
Unit 1 18 Hurley Dve  
Coffs Harbour  
NSW 2450  
Site: NR1059/3

Report Number: 197100 Page 1 of 7  
Order Number:  
Date Received: Aug 7, 2006  
Date Sampled: Aug 3, 2006  
Date Reported: Aug 14, 2006  
Contact: David Barker

### Methods

- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- USEPA 6020 Heavy Metals
- Method 102 - ANZECC - % Moisture

### Comments

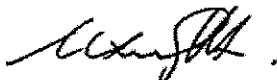
### Notes

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.

### 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

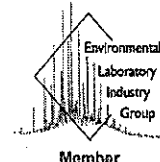


Michael Wright  
NATA Signatory  
Laboratory Manager

Report Number: 197100



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.



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](mailto:mgt@mgtenv.com.au)

<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>GA1</b>	<b>GA2</b>	<b>GA3</b>	<b>GA4</b>
	<b>Lab Number</b>		<b>06-AU01720</b>	<b>06-AU01721</b>	<b>06-AU01722</b>	<b>06-AU01723</b>
	<b>Matrix</b>		<b>Soil</b>	<b>Soil</b>	<b>Soil</b>	<b>Soil</b>
	<b>Sample Date</b>		<b>Aug 3, 2006</b>	<b>Aug 3, 2006</b>	<b>Aug 3, 2006</b>	<b>Aug 3, 2006</b>
<b>Analysis Type</b>	<b>LOR</b>	<b>Units</b>				
% Moisture	0.1	%	34	33	40	42
<b>Heavy Metals</b>						
Zinc	5	mg/kg	150	670	180	330

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

Coffey Geotechnics Pty Ltd	Client Sample ID		DUP1	GB1	GB2	GB3
Unit 1 18 Hurley Dve Coffs Harbour NSW 2450	Lab Number		06-AU01724	06-AU01725	06-AU01726	06-AU01727
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		Aug 3, 2006	Aug 3, 2006	Aug 3, 2006	Aug 3, 2006
Analysis Type	LOR	Units				
% Moisture	0.1	%	49	45	39	36
Heavy Metals						
Zinc	5	mg/kg	270	360	140	250

COMMENTS:



**Coffey Geotechnics Pty Ltd**

**COMMENTS:**

**Coffey Geotechnics Pty Ltd**

COMMENTS:

COMMENTS:

Coffey Geotechnics Pty Ltd  Unit 1 18 Hurley Dve Coffs Harbour  NSW 2450	Client Sample ID	GB6	GB6	GB6	GB6
	Lab Number	06-AU01730	06-AU01730	06-AU01730	06-AU01730
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery
	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Aug 3, 2006	Aug 3, 2006	Aug 3, 2006	Aug 3, 2006
Analysis Type	Units			% RPD	% Recovery
Heavy Metals					
Zinc		100	110	5.2	-

COMMENTS:

## Chain of Custody

Laboratory Quotation / Order No

Geotab6to1059AC

No: 34171

Job No:

Sheet of

Dispatch to:  
Address &  
Phone No:MGT Environmental  
3 Kingston Town close  
Oakleigh, Vic 3166  
Client Services

Sampled by

Coffey

Consigning Office: C. McNeil

Date Dispatched: 3/8/06

Attention:

Project Manager: D Parker  
(report results to)  
Coffs Harbour office  
0266513213

Courier Service: Star Track

Consignment Note No.

A/c

Relinquished by:

Date

Time

Received by

Date

Time

Cornell Lee

197100

7-8-06

Comments	Sample Matrix	Container Type and Preservative	Sample No	Date Sampled	Analyses Required				Sample Condition on Receipt
					PAHs	TPHs	MAHs = GTEX	Metals:	
0.0-0.2m	S	Glass Jar	GA1	3/8/06				Zinc	
0.0-0.2m	S		GA2						
0.0-0.2m	S		GA3						
0.0-0.2m	S		GA4						
0.0-0.2m	S		DUP #1						
0.0-0.2m	S		GB1						
0.0-0.2m	S		GB2						
0.0-0.2m	S		GB3						
0.0-0.2m	S		GB4						
0.0-0.2m	S		GB5						
0.0-0.2m	S		GB6						
0.0-0.2m	S		GB7						
0.0-0.2m	S		GB8						
0.0-0.2m	S		DUP2						
Wash Blank	-	Plastic Bottle	WB1						

Special Laboratory Instructions

Detection Limits

Turnaround Required:

Copies: WHITE: Sample release YELLOW: P. Separation to substrate (see 1.4) to sign on receipt and fax back to Coffey BLUE: To be returned with results

JOB NUMBER MUST BE  
REFERENCED ON  
SUBSEQUENT P/

Coffey

## CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd  
Unit 1 18 Hurley Dve  
Coffs Harbour  
NSW 2450  
Site: NR1059/3

Report Number: 197632 Page 1 of 10  
Order Number:  
Date Received: Aug 21, 2006  
Date Sampled: Aug 3, 2006  
Date Reported: Aug 29, 2006  
Contact: Emma Coleman

### Methods

- USEPA 6010B Heavy Metals & USEPA7470/71 Mercury
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

### Comments

Please Note Coffey Sample No GA2(MGT No Au05130),GB1(Au05133) and GB7(Au05139) were all repeated in quadruple for Zinc:  
GA2 670,800,1100 and 860 mg/kg  
GB1 360,860,680 and 760 mg/kg  
GB7 460,1000,960 and 570mg/kg  
From the results obtained above it appears that the samples are not homogenous.

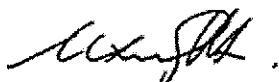
### Notes

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.

### ABBREVIATIONS

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

Authorised



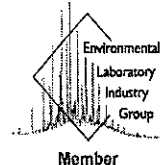
Michael Wright  
NATA Signatory  
Laboratory Manager

Report Number: 197632



NATA Accredited  
Laboratory Number 1261

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

**COMMENTS:**



**Coffey Geotechnics Pty Ltd**

[illegible]

**COMMENTS:**

**Coffey Geotechnics Pty Ltd**

**COMMENTS:**

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

**COMMENTS:**

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

COMMENTS:

Unit 1 18 Hurley Dve  
Coffs Harbour  
NSW 2450

COMMENTS:

**COMMENTS:**

**COMMENTS:**

## Chain of Custody

Laboratory Quotation / Order No:

Job No: **AL5101039 AC** Sheet **1 of 2**

Dispatch to: <b>mgt</b> (Address & Phone No.) <b>3 LINCOLN TOWN CLOSE GARRLEIGH VIC 3166</b>		Sampled by: <b>AB + CM</b>		Consigning Officer: <b>ELC</b>	
Attention: <b>TAXI: 9564 7190</b> <b>Client Service</b>		Project Manager: (report results to) <b>EMMA COLEMAN</b>		Date Dispatched: <b>Received 15/6/06 + 7/8/06</b>	
Relinquished by: <b>COFFEY GEOTECHNICS PTY LTD</b> <b>4/6 ROSSELLTON DR</b> <b>ALSTONVILLE NSW 2477</b>		Date:	Time:	Received by:	Date:
				<b>Cruis</b>	<b>18/8/06</b>
					<b>197633</b>

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	Analyses Required						Sample Condition on Receipt	
					PAHs	TPHs	MAHs = BTEX	Metals	TEP	8 metals		
	SOIL	GLASS JAR	C1 JN 3507	9/6/06								
			CA1 AJ1720	3/8/06								
			GA2 AJ1721	969.								
			GA3 AJ1722									
			GA4 AJ1723									
			GB1 AJ1725									
			GB2 AJ1726									
			GB3 AJ1727									
			GB4 AJ1728									
			GB5 AJ1729									
			GB6 AJ1730									
			GB7 AJ1731									
			GB8 AJ1732									
			GC1 H 285									
			GC2									
			GC3									
			GC4									

Special Laboratory Instructions: **8 metals = As, Cd, Cr, Cu, Pb, Ni, Zn, Hg**

Detection Limits: **NORMAL** Turnaround Required: **ASAP**

Job Number Must Be Referenced on All Subsequent Pages

Copies: WHITE: Sign on release. YELLOW: If dispatched to Interstate Lab, Lab to sign on receipt and fax back to Coffey. BLUE: To be returned with results.

Coffey

15-V6-0011141 15-V6-0011141 15-V6-0011141

15-V6-0011141 15-V6-0011141

2005/11-01



## Chain of Custody

Laboratory Quotation / Order No:

**Job ၁၃/၀၃**

Job No: ALST01059 AC

Sheet

2<sup>o</sup> 2



18-08-00, 11.7, 20110 108, 0000

Dispatch to:  
(Address &  
Phone No.)

Sampled by:

**Consigning Officer:**

Date Dispatched:

**Attention:**

**Project Manager:**  
(report results to)

**Courier Service:**

Consignment Note No:

Relinquished by:

Date:

Type:

Received by:

Date:

Time:

China

19/03/20

197632

197633

[illegible]

**Special Laboratory Instructions:**

**Detection Limits:**

NÜLMAL

**Turnaround Required:**

ASAP

**JOB NUMBER MUST BE  
REFERENCED ON ALL  
SUBSEQUENT PAGES**

**Copies:** **WHITE:** Sign on release. **YELLOW:** If dispatched to Interstate Lab, Lab to sign on receipt and fax back to Colley. **BLUE:** To be returned with results.

2005341-02

## CERTIFICATE OF ANALYSIS

Coffey Geotechnics Pty Ltd ALS  
4/6 Russelton Dve  
Alstonville  
NSW  
Site: NR1059/3

Report Number: 197633 Page 1 of 9  
Order Number:  
Date Received: Aug 18, 2006  
Date Sampled: Aug 3, 2006  
Date Reported: Aug 29, 2006  
Contact: Emma Coleman

### Methods

- USEPA 6010B Heavy Metals & USEPA7470/71 Mercury
- USEPA 6010B Heavy Metals & USEPA 7470/71 Mercury

### Comments

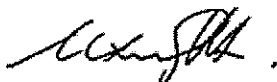
### Notes

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.

### 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



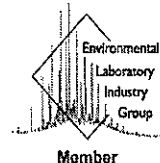
Michael Wright  
NATA Signatory  
Laboratory Manager

Report Number: 197633



NATA Accredited  
Laboratory Number 1261

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**Coffey Geotechnics Pty Ltd ALS**

COMMENTS:

4/6 Russelton Dve  
Alstonville  
NSW

COMMENTS:

Coffey Geotechnics Pty Ltd ALS	Client Sample ID		GB8	GC1	GC2	GC3
4/6 Russelton Dve Alstonville NSW	Lab Number		06-AU05169	06-AU05170	06-AU05171	06-AU05172
	Matrix		TCLP	TCLP	TCLP	TCLP
	Sample Date		Aug 3, 2006	Aug 3, 2006	Aug 3, 2006	Aug 3, 2006
Analysis Type	LOR	Units				
Heavy Metals (7)						
Arsenic	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Chromium	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Copper	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Lead	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	0.01	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Zinc	0.01	mg/l	0.29	0.04	0.05	0.33
Heavy Metals						
Mercury	0.005	mg/l	<0.005	<0.005	<0.005	<0.005

4/6 Russelton Dve  
Alstonville  
NSW

COMMENTS:

**Coffey Geotechnics Pty Ltd ALS**

COMMENTS:



4/6 Russelton Dve  
Alstonville  
NSW

COMMENTS:

Coffey Geotechnics Pty Ltd ALS

4/6 Russelton Dve Alstonville NSW	Client Sample ID		GC16
	Lab Number		06-AU05185
	Matrix		TCLP
	Sample Date		Aug 3, 2006
Analysis Type	LOR	Units	
Heavy Metals (7)			
Arsenic	0.01	mg/l	< 0.01
Cadmium	0.01	mg/l	< 0.01
Chromium	0.01	mg/l	< 0.01
Copper	0.01	mg/l	< 0.01
Lead	0.01	mg/l	< 0.01
Nickel	0.01	mg/l	< 0.01
Zinc	0.01	mg/l	0.15
Heavy Metals			
Mercury	0.005	mg/l	<0.005

COMMENTS:

## Chain of Custody

Laboratory Quotation / Order No:

Job No: ALST01059 AC Sheet

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[illegible]

# Coffey

**2015/11/11**

## Chain of Custody

Laboratory Quotation / Order No:

Job No:

Job No: **ALST01059 AC**

Sheet

7 of 2

[illegible]

**JOB NUMBER MUST BE  
REFERENCED ON ALL  
SUBSEQUENT PAGES**

**Copies:** **WHITE:** Sign on release. **YELLOW:** If dispatched to Interstate Lab, Lab to sign on receipt and fax back to Coffey. **BLUE:** To be returned with results.