

BNE 2005/15/34

Waste Solutions Australia Pty Ltd



ARIA Property Group

**STAGE 1
ENVIRONMENTAL SITE
ASSESSMENT
4 EDMONSTONE STREET
SOUTH BRISBANE**

Prepared By:

WASTE SOLUTIONS AUSTRALIA PTY LTD

RN 05/394

OCTOBER 2005

CONTAMINATED
LAND SECTION
- 6 OCT 2005

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RTI DL RELEASE - EHP

PROPERTY DESCRIPTION

SITE ADDRESS 4 Edmonstone Street,
South Brisbane, QLD

LOT DESCRIPTION: Lot 153 on B3137 (refer to the registered plan in
Appendix D) EPA File Number BNE 24817

OWNER: LSBL Investments Pty Ltd (refer to title search in
Appendix B)

LOCAL AUTHORITY AREA: Brisbane City Council

CURRENT ZONING: Special Purposes SP13

CURRENT USE: Vacant Commercial

FUTURE ZONING: Unknown (proposed residential)

PROPOSED USE: High-density residential development

LISTED ON THE EMR No (EMR search reproduced in *Appendix C*)

LISTED ON THE CLR: No (CLR search reproduced in *Appendix C*)

BCC RECORDS: No Flammable and Combustible Liquids License has
been recorded for the site (Verbal information
provided by BCC)

GROUNDWATER BORE SEARCH: No registered bores within 2km of the site

STAGE 1 SOIL CONTAMINATION ASSESSMENT

OF LOT 153 ON B3137

1 INTRODUCTION

1.1 Background

Waste Solutions Australia Pty Ltd (WSA) was commissioned by ARIA Property Group (ARIA) to undertake a Stage 1 Environmental Site Assessment (ESA) on Lot 153 on B3137, at 4 Edmonstone Street, South Brisbane (the site) as shown in Figure 1.

This work was in response to an information request from the Queensland Government Environmental Protection Agency (EPA) Reference Number BCC/7/05(3) Part 1, dated 11 August 2005 in order to enable a Suitability Statement to be issued for the site.

1.2 Objectives

The objective of the work was to assess the potential for, or indicative presence of soil contamination that may require remedial action in order to allow proposed future residential development to proceed. This initial assessment was based upon a detailed desktop survey and the analysis of soil samples obtained during a geotechnical investigation of the site (completed by Morrison Geotechnic Pty Ltd [Morrison]).

As mentioned in the Qld EPA information request, if the site is to remain on the Qld EPA Environment Management Register (EMR) as a "Managed" site, a draft Site Management Plan (SMP) must be prepared and submitted to the EPA.

Should the site be removed from the EMR, a remediation action plan (RAP), followed by remediation and a site validation report, must be produced.

1.3 Scope of Work

The works carried out for the project involved the following:

- Conducting a brief inspection of the site, identifying areas of potential environmental concern;
- Conducting a search of the Qld EPA EMR and Contaminated Land Register (CLR);
- Conducting a search of Brisbane City Council (BCC) records;
- Conducting an historical title review of the site;
- Conducting an historical aerial photograph review of the site and surrounding areas;
- Drilling of five (5) boreholes to a maximum depth of 16.64 metres below ground level (mbgl) by Morrison;
- Collection of soil samples by Morrison with determination of selected samples for analysis by WSA;

- Analysis of nine (9) soil samples, plus 1 duplicate for laboratory analysis of metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc) and 5 of the samples and 1 duplicate for total petroleum hydrocarbons (TPH), benzene, ethylbenzene, toluene and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAH); and
- Preparation of a Stage 1 ESA report, detailing the findings of the investigation and providing conclusions and recommendations.

2 SITE DESCRIPTION

2.1 Site Inspection

A site inspection was conducted by WSA on 28 September, 2005. It should be noted that, at the time of the site inspection, access was restricted due to the site being fenced. The following observations were made during the site inspection:

- The site is located at 4 Edmonstone Street, South Brisbane (*Figure 1*).
- The site boundary is of rectangular shape, and is occupied by a vacant single level, concrete block building. The most recent commercial business to occupy the premises was Cutting Edge Post Pty Ltd.
- Almost the whole surface of the site is concrete sealed.
- The site slopes to the south with a gradient of approximately 5%.
- The site drains to the southern corner to a square grated drain, approximately 50cm x 50cm. A square manhole is also located in this corner of the site.
- The site is 0.09 hectares in size.
- The site is covered with approximately 90% building and the remaining 10% concrete carpark.
- The neighbouring buildings to the northwest and southeast are attached via common walls.
- A concrete pathway is located on the southwestern side of the block from the footpath to the building.

Surrounding Land Use

The surrounding land use is described below in *Table 1*.

Table 1 Description of Surrounding Land Use

Northwest:	Commercial block and concrete building with no basement (with a common wall to the site building).
Northeast:	Multistory building under construction.
Southeast:	Multistory residential concrete apartment building with a single level basement founding on timber piles under construction (with a common wall to the site building).
Southwest:	Edmonstone Street followed by commercial property.

2.2 Proposed Use

It is proposed to develop the site for residential apartments. It is understood that the proposed building is a multistory apartment building with a two level basement carpark. Part of the proposed development is to remove soils from the current site to approximately 5 metres below the current ground level. This will include the removal of any identified shallow fill material.

2.3 Site History

In order to determine past land use on the subject land, a review of the site history using aerial photographs, historical titles, environmental management and contaminated land registers has been undertaken. It should be noted that it was not possible to undertake discussions with persons with historical knowledge of the site. A summary of the site history findings is given below:

2.3.1 Review of Historical Aerial Photographs

Aerial photographs sourced from the Queensland Department of Natural Resources, Mines and Energy (DNRM&E) were reviewed as follows:

- 1 August 1951, Greater Brisbane Area 51 Project (black and white), Film BCC0, Frame 39367, Run 5, Approximate scale 1:16,000.
- 1 September 1960, Brisbane City 60 Project, Film QAP1074 (black and white), Frame 12, Run 4, Approximate scale 1:7,300.
- 1 September 1969, Stage 2 Freeways Brisbane 69, Film QAP1989 (black and white), Frame 55, Run 8, Approximate scale 1:4,000.
- 1 January 1974, Brisbane Floor 74 Project, Film QAP2756 (black and white), Frame 9725, Run 2, Approximate scale 1:4,900.
- 1 May 1980, Brisbane East 80 Project, Film QAP3718 (black and white), Frame 2462, Run 14, Approximate scale 1:9,300.
- 1 August 1987, Brisbane Central 87 Project, Film QAP4687 (black and white), Frame 77, Run 1, Approximate scale 1:9,900.
- 13 June 2004, Tweed Heads – Urungan 2004 Project, Film QAP6078 (colour), Frame 34, Run, 103, Approximate Scale 1:12,000.

Table 2 below details the findings of the historical aerial photograph review.

Table 2 Historical Aerial Photograph Review

Year	Run	Frame No.	Comment
1951	9	39367	There appears to be a building on the site and to the northeast, northwest and southeast, however, details of the buildings can not be provided due to the scale of the photograph.
1960	4	12	A detached commercial building occupies a portion of the site. There appears to be one residential/commercial building and one residential house to the northeast, one residential/commercial building to the northwest and one commercial building to the southeast (detached).

1969	8	55	<p>The building on the site appears relatively unchanged.</p> <p>There appears to be one commercial building under construction and one residential house to the northeast, one residential/commercial building to the northwest and one detached redeveloped commercial building to the southeast (since 1960).</p>
1974	2	9725	<p>The building on the site appears relatively unchanged.</p> <p>There appears to be two commercial properties to the northeast (one under construction), a new commercial property has been constructed to the northwest since 1969 and one commercial building to the southeast (detached).</p> <p>The building to the northwest has been rebuilt since 1969.</p>
1980	14	2462	<p>The site and adjacent properties appear relatively unchanged.</p>
1987	1	77	<p>A new rectangular commercial building has been constructed on the site since 1980 (taking up the majority of the block). The new construction has common walls with the southeast and northwest properties.</p> <p>There is a commercial building on the southeast. There appears to be two commercial buildings to the northeast and a commercial property to the northwest.</p>
2004	103	34	<p>The building on the site appears to be unchanged since 1987.</p> <p>The building on the southeast appears to be under construction. There appears to be two commercial buildings to the northeast and a commercial property to the northwest.</p>

The site appears to have been a commercial premise since 1960.

Historical Aerial Photos are presented in *Appendix A*.

2.3.2 Historical Titles

A review of historical titles of the site was carried out and the following results are summarised in chronological order below in *Table 3*. Historical titles are presented in *Appendix B*.

Table 3 Summary of Historical Titles

Date	Comments
Allotment 13 of Section 44	
13/4/52	Frank Cali registered proprietor of the site.
8/7/57	Vincent Joseph ½ tenant in common. Sebastiano Nucifora ½ tenant in common.
2/8/65	Transmission by death to Vincent Joseph Nucifora.
30/10/80	Anihava (QLD) Pty Limited proprietor of the site.
23/10/84	Transfer to tenants in common: <ul style="list-style-type: none"> - Hugh Mitchell Bubb; - Greta Bubb; - Helen Margaret Edmonds; - Ann Louise Schiller; and - Mary Elizabeth Turner.
20/7/88	Site description changes to Lot 153 on Plan Number: B3137.
13/12/94	Transmission by death to tenants in common: <ul style="list-style-type: none"> - Mary Greta Bubb; - Helen Margaret Edmonds; - Ann Louise Schiller; and - Mary Elizabeth Turner.
17/04/03 – present	Transfer to Trustee - LSBL Investments Pty Ltd.

2.4 Regional Geology

Information about the regional geology was obtained from the 1:500, 000 Moreton Geological Map produced by the Department of Mines in 1980. The site is underlain by Devonian-Carboniferous Bunya Phyllite comprising phyllite, chert, minor micaceous meta-arenite and Quaternary alluvial sediments comprising sand, silt, clay and gravel. The site has been subject to flooding in major flood storm events in recent history.

2.5 Regional Hydrogeology

Information about the local hydrogeology was obtained from the 1:2500 000 Groundwater Resources Queensland map produced by Queensland Department of Mines, 1987. The groundwater has a yield of <5 L/sec and a salinity of 500-1500 mg/L. The groundwater is suitable for most stock and some domestic and irrigation. The lithology of the aquifer is metamorphic rocks.

Information provided by the DNRME regarding the presence of any groundwater abstraction bores in the area, has been confirmed that there are no registered bores within 2km of the site. Given the likely poor quality of any groundwater in the area of the site, it is unlikely that the aquifer will be utilised in the near future.

3 SOIL SAMPLING METHODOLOGY

Morrison Geotechnic Pty Ltd conducted the soil sampling at the site as part of a geotechnical investigation. Borehole locations are illustrated in *Figure 2*.

It is understood that boreholes were hand augured for the first metre and then drilled, using a solid stem auger mounted on a 4WD Landcruiser. The solid stem auger was used to obtain soil samples, at various depths and locations. The drilling program was aimed at identifying geotechnical properties of soils in addition to the potential presence of soil contamination on the site.

The site is approximately 0.09ha in area. The Australian Standard Guide to Sampling and Investigation of Potentially Contaminated Soil, Part 1 (1997) recommends 5 to 6 sampling points in an area 0.05 to 0.1ha. Buildings restricted locations of the boreholes. However it was attempted to gain as much coverage of the site as possible within these limitations by drilling 5 boreholes over the site. Overhead building height restricted access of the drilling equipment to the southeast area of the site therefore sampling was not conducted in the area.

Boreholes were progressed to a maximum depth of 16.64 mbgl. Soil samples were collected from each borehole at a maximum 0.5m intervals or change in strata. Soil samples were provided to WSA upon completion of the geotechnical investigation.

From the samples provided by Morrison, WSA selected nine primary soil samples (plus 1 duplicate sample, at a rate of 1:10, which is the standard Old EPA requirement) for laboratory analysis of metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc). Additionally five of the soil samples plus 1 duplicate were analysed for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAH).

Groundwater was encountered during the drilling works in BH4 and BH5 at depths of 5.9m and 5.65m respectively. However groundwater investigations were not carried out during these works. Given the depths to groundwater and the discontinuity across the site, it is unlikely the groundwater will be impacted. In addition, the future excavations will not extend to these depths and therefore will not encounter any groundwater.

Soil samples collected by Morrison were placed in sealed plastic bags and stored in eskies on site. WSA received the samples at the end of the geotechnical investigation and transferred them into teflon sealed, laboratory prepared glass jars. These were then placed in a fridge prior to subsequent transfer to an esky with placement on ice and transported to Australian Laboratory Services (ALS), a National Association of Testing Authorities (NATA) registered laboratory (NATA registry number 825).

4 QUALITY ASSURANCE

The laboratory performed internal Quality Assurance (QA) and Quality Control (QC) analysis. The QA/QC employed by the laboratory comprises anomalous samples (spikes) for organic analysis and certified reference sampling for inorganics. The results of the QC testing are presented in the laboratory certificates (*Appendix F*). Results also indicate how much of a particular analyte was recovered. Duplicate testing is undertaken by the laboratory to compare the results obtained in analysing samples.

In addition, duplicate samples were collected on site and tested by the same laboratory. No rinsates or trip blanks were obtained, as WSA did not undertake the soil sampling. Results of the quality assurance sampling are discussed in *Section 6*.

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5 ASSESSMENT CRITERIA

5.1 Soils

Soils analysis results were compared to the Queensland Environmental Protection Agency (EPA) Investigation Threshold Levels (*Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland*, 1998).

Various Health-based Investigation Levels (HBILs) (A-F) have been developed by the National Environmental Health Forum (NEHF) for different exposure settings. These exposure settings are dependent on land use. The NEHF Investigation Levels used by WSA for validation purposes at this site are the HBIL-A levels (Health Based Investigation Levels for low Residential Land use).

These are, in effect, conservative given the fact that future development will be high-density residential land use.

In the absence of official EPA guidelines for TPH and BTEX compounds, the internal guideline levels (IGLs) that the EPA considers acceptable have been used. The assessment criteria used during this assessment are detailed in *Table 4*. In the absence of Queensland EPA Guideline levels, the NSW EPA Guidelines for Assessing Service Station Sites 1994 were referenced.

Table 4 Assessment Criteria for Soils

Compound	Nominated Health Based Investigation Levels (soil) mg/kg
Total Petroleum Hydrocarbons	
<i>C₆ – C₉</i>	100 ⁽¹⁾
<i>C₁₀ – C₁₄</i>	100 ⁽¹⁾
<i>C₁₅ – C₂₈</i>	1000 ⁽¹⁾
<i>C₂₉ – C₃₆</i>	1000 ⁽¹⁾
Benzene	1 ⁽¹⁾
Toluene	130 ⁽²⁾
Ethylbenzene	50 ⁽²⁾
Xylenes	25 ⁽²⁾
Total BTEX	7 ⁽³⁾
Benzo(a)pyrene	1 ⁽³⁾
Total Polycyclic Aromatic Hydrocarbons	20 ⁽³⁾
Arsenic	100 ⁽³⁾
Cadmium	20 ⁽³⁾
Chromium	12% ⁽³⁾
Copper	200 ⁽¹⁾
Lead	300 ⁽³⁾
Nickel	600 ⁽³⁾
Zinc	400 ⁽¹⁾

(1) EPA Internal Guideline Levels

(2) Guidelines for Assessing Service Station Sites, Contaminated Sites Section, NSW Environment Protection Authority (1994).

(3) Draft Guidelines for the Assessment & Management of Contaminated Land in Qld (Department of Environment (now Qld EPA), May 1998).

6 RESULTS

Laboratory certificates are summarised and appended in this report.

6.1 Soil

6.1.1 Geology

The site geology was found to consist of the following material:

- Sandy clay fill material underlying the concrete slab to approximately 1m below ground level (bgl) across the site; underlain by:
- Mixtures of primarily clayey sand/sandy clays extending from to 2m to 8m bgl in some instances. This natural fill varies in colour from orange brown through dark and pale gray to gray brown; and
- Predominantly silty clay extends to 12m bgl, at which point the hole was either terminated or in two cases intercepted weathered phyllite bedrock.

Soil bores as documented by Morrison Geotechnical are presented in *Appendix E*.

6.1.2 Laboratory Investigation

Laboratory investigation findings are summarised below regarding soil contamination at the subject site:

- Heavy metals have been identified in the shallow fill material at levels exceeding the HBIL-A;
- Lead and zinc were identified in BH 2 at 0.2 m at concentrations of 1010 mg/kg and 507 mg/kg respectively, exceeding the HBIL-A of 300 mg/kg and 400 mg/kg respectively;
- Copper and zinc were identified in BH 5 at 0.3 m at concentrations of 294 mg/kg and 711 mg/kg respectively, exceeding the HBIL-A of 200 mg/kg and 400 mg/kg respectively; and
- All other soil sample results from the fill material returned analyte concentrations either below laboratory detection limits or within the nominated guideline levels; and
- Samples collected from the underlying natural material returned concentrations either below laboratory detection limits or within the nominated guideline levels.

6.2 Groundwater

Groundwater was observed at boreholes BH4 and BH5, at depths of 5.9m bgl and 5.65m bgl, respectively. No groundwater investigations were carried out during those works.

Information provided by the DNRME showed no registered groundwater bores within a 2km radius of the site. Given the discontinuous nature of the groundwater, the clayey soils and the depth, it is unlikely the groundwater will be impacted by any shallow soil metal impact.

6.3 Quality Assurance

6.3.1 Field Data

The appended summary table of laboratory results shows the measurable relative percent differences (RPD) within the acceptable range with a maximum of 25.5%. The general maximum acceptable level for RPD values is 30%. This indicates that sample collection procedures were carried out appropriately.

7 CONCLUSIONS AND RECOMMENDATIONS

Based on the information obtained from the investigation works, WSA conclude the following:

- Historical evidence suggests no environmentally relevant activities were previously carried out at the site.
- Elevated levels of the metal contaminants lead, copper and zinc are present within limited areas of the shallow fill material.
- Concentrations of contaminants of concern in the underlying natural material were either not detected or were within the nominated investigation levels.
- As heavy metals have been identified at the site exceeding the nominated guideline levels, a Notification of Land form is to be provided to the Qld EPA within 30 days of the owner being aware of the exceedences.
- Upon submission of the 'Notification' form the site will be placed on the EMR due to the presence of recorded heavy metals in the fill.
- Based upon soil sampling results there will be a requirement to subsequently remove the shallow fill to a maximum of 0.5m to allow the removal of the site from the EMR.

Additionally:

- Should the site stay on the EMR, a Site Management Plan (SMP) will be required, however, to remove the site from the EMR, soil remediation will be necessary.
- To allow the site to be removed from the EMR, a remediation action plan (RAP) will need to be produced, approved by the EPA and then be suitably completed with a validation report submitted to the EPA for review and, if appropriate, issue of a site suitability statement.
- It is understood that a two level basement carpark is to be excavated under the building and hence any potentially contaminated material should be excavated in accordance with the RAP and then selectively removed to an appropriate licensed landfill under conditions of a disposal permit.
- Following removal of the shallow soils, sampling of the underlying material should be undertaken to validate the site as suitable for future residential use.
- Upon submission of a validation report to the EPA and, if appropriate, the site may be removed from the EMR.
- Should the basements extend to within one metre of the current groundwater, the quality of this groundwater should be assessed.

8 LIMITATIONS OF REPORTING

Waste Solutions Australia Pty Ltd has prepared this report for the use of ARIA Property Group and the EPA in accordance with generally accepted consulting practice. No other warranty, expressed or implied, is made as to the professional advice included in this report. This report may not contain sufficient information for purposes other than for the client and its respective consulting advisers.

The accuracy of the assessment made in this report is dependent upon the accuracy and reliability of evidence drawn together from a number of sources. The field investigations on which this report is based were not completed by WSA but by Morrison. WSA cannot verify the sampling methodology or techniques used by Morrison and therefore can only place partial reliance on the results. WSA were only requested to subsequently select samples for analysis and interpret the results of the analysis. It is important, however, that the limitations of the assessment be clearly recognised when the findings of this study are being interpreted. This report is based on sampling and information derived from others over which Waste Solutions Australia Pty Ltd had no control.

The report is based on conditions encountered in a limited number of investigation locations. Investigations have not been conducted to characterise all possible contamination on site, nor to fulfil the purposes of all possible site developments. Conditions may be encountered in subsequent investigations or during site re-development which were not encountered in this investigation.

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9 REFERENCES

Draft Guidelines for the Assessment & Management of Contaminated Land in Qld (Department of Environment (now Qld EPA), May 1998).

Guidelines for Assessing Service Station Sites, Contaminated Sites Section, NSW Environment Protection Authority (1994).

The Australian Standard AS 4482.1-1997. Guide to Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds. Standards Australia, North Sydney NSW (1997).

Moreton Geology Map. Queensland Department of Mines. Printed S.R. Hampson, Government Printer (1980).

Groundwater Resources of Queensland Map. Queensland Water Resources Commission and the Queensland Department of Mines. Printed S.R. Hampson, Government Printer (1989).

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FIGURES

RTI DL RELEASE - EHP



Source: www.whereis.com.au Collection 3

CLIENT: Aria Property Group

Site Locality Plan
4 Edmonstone Street, South Brisbane

DATE: August 05

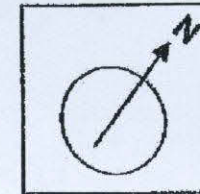
JOB NO: A394

FIGURE: 1

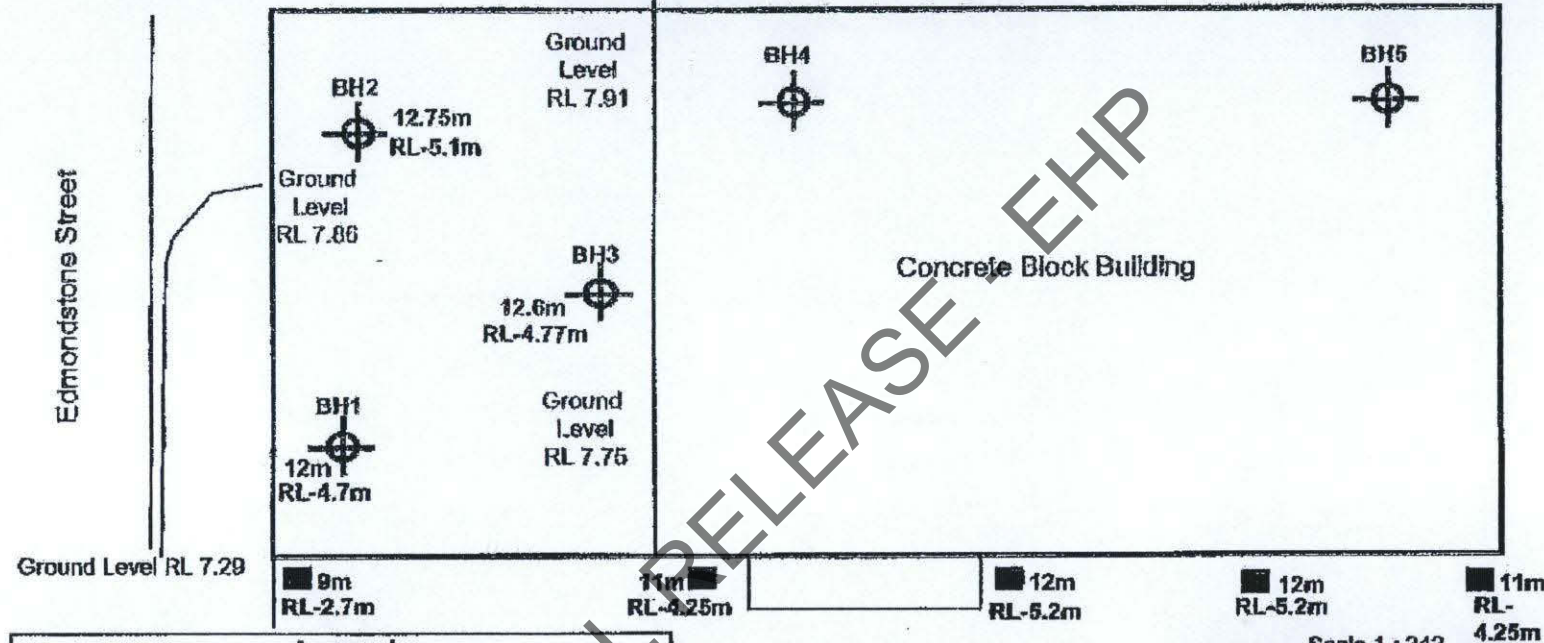
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Borehole Location Plan



Brick and Concrete
Block Building
No Basement



Legend

- Geotechnical borehole locations
- Site Boundary
- Timber piles driven from 1m below ground level
- 10m Depth to top of bedrock
- RL-1.7m RL of top of bedrock

Concrete Apartment Building
With Single Level Basement
Founding on Timber Piles

9/08/05

2032175 Figure 1
Aria Property Group
4 Edmondstone Street
South Brisbane



CLIENT: Aria Property Group

Borehole Location Plan 4 Edmondstone Street, South Brisbane

Source: Morrison Geotechnic

DATE: August 05

JOB NO: A394

FIGURE: 2

SUMMARY TABLE

LABORATORY RESULTS

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Analysis results of soil samples collected from boreholes at 4 Edmonstone Street on August 10 2005. Shaded cells exceed assessment criteria.

		Sample	BH1	BH2	BH2	BH3	BH3	BH4	BH4	BH5	BH5	Dup 2	RPD
		Depth(m)	0.4	0.2	0.9	0.6	0.9-1	0.5	1	0.3	1.1	is BH3 0.6	
	Unit	LOR											%
Moisture Content (dried @ 103°C)	%	1	19.4	9.5	12.7	6.5	8.4	10.6	11.1	9.8	12.7	8.4	25.5
Metals													
Arsenic	mg/kg	5	<5	5	<5	<5	<5	8	10	19	<5	<5	nd
Cadmium	mg/kg	1	<1	<1	<1	<1	<1	1	1	2	<1	<1	nd
Chromium	mg/kg	2	12	18	25	11	14	97	116	NA	27	11	0.0
Copper	mg/kg	5	10	18	6	<5	<5	109	120	294	188	<5	nd
Lead	mg/kg	5	50	1010	37	10	12	18	10	<5	79	8	22.2
Nickel	mg/kg	2	4	4	3	3	2	193	182	271	6	3	0.0
Zinc	mg/kg	5	308	507	28	10	8	211	184	711	123	9	10.5
PAH													
Naphthalene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Acenaphthylene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Acenaphthene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Fluorene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Phenanthrene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Anthracene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Fluoranthene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Pyrene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Benz(a)anthracene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Chrysene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Benzo(b)fluoranthene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Benzo(k)fluoranthene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Benzo(a)pyrene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Dibenz(a,h)anthracene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
Benzo(g,h,i)perylene	mg/kg	0.5	<5	<0.5	NA	<5	NA	<0.5	NA	<0.5	NA	<5	nd
TPH													
C6 - C9 Fraction	mg/kg	2	<2	<2	NA	<2	NA	<2	NA	<2	NA	<2	nd
C10 - C14 Fraction	mg/kg	50	<50	<50	NA	<50	NA	<50	NA	<50	NA	<50	nd
C15 - C28 Fraction	mg/kg	100	<100	<100	NA	<100	NA	<100	NA	<100	NA	<100	nd
C29 - C36 Fraction	mg/kg	100	<100	<100	NA	<100	NA	<100	NA	<100	NA	<100	nd

NA - not analysed

Continued overleaf

nd - not determined

 Level above assessment criteria outlined in Table 2 in Section 5.1

	Sample		BH1	BH2	BH2	BH3	BH3	BH4	BH4	BH5	BH5	Dup 2	RPD
	Depth(m)		0.4	0.2	0.9	0.6	0.9-1	0.5	1	0.3	1.1	is BH3 0.6	
	Unit	LOR											%
BTEX													
Benzene	mg/kg	0.2	<2	<0.2	NA	<2	NA	<0.2	NA	<0.2	NA	<2	nd
Toluene	mg/kg	0.2	<2	<0.2	NA	<2	NA	<0.2	NA	<0.2	NA	<2	nd
Ethylbenzene	mg/kg	0.2	<2	<0.2	NA	<2	NA	<0.2	NA	<0.2	NA	<2	nd
meta- & para-Xylene	mg/kg	0.2	<2	<0.2	NA	<2	NA	<0.2	NA	<0.2	NA	<2	nd
ortho-Xylene	mg/kg	0.2	<2	<0.2	NA	<2	NA	<0.2	NA	<0.2	NA	<2	nd

NA - not analysed

nd - not determined

 Level above assessment criteria outlined in Table 4 in Section 5.1

RTI DL RELEASE - EHP

APPENDIX A

AERIAL PHOTOGRAPHS

RTI DL RELEASE EHP





Plate 1: Aerial photograph taken August 1 1951.



Plate 2: Aerial photograph taken September 1 1960.



Plate 3: Aerial photograph taken September 1 1969.



Plate 4: Aerial photograph taken January 1 1974.



Plate 5: Aerial photograph taken May 1 1980.



Plate 6: Aerial photograph taken August 1 1987.



Plate 7: Aerial photograph taken 13 June 2004.

APPENDIX B

HISTORICAL TITLES

RTI DL RELEASE EHP



HISTORICAL TITLE SEARCH

NATURAL RESOURCES & MINES, QUEENSLAND

Request No: 1111882

Search Date: 28/09/2005 11:52 am

Title Reference: 16060017

Date Created: 21/11/1980

Previous Title: 13051227
13051228

REGISTERED OWNER

Dealing No: 706537067 17/04/2003

LSBL INVESTMENTS PTY LTD A.C.N. 102 226 228
TRUSTEE
UNDER INSTRUMENT 706537067

TRANSFER TO TRUSTEE No 706537067
LSBL INVESTMENTS PTY LTD A.C.N. 102 226 228 TRUSTEE
UNDER INSTRUMENT 706537067
Produced at 09:27 on 17/04/2003

TRANSMISSION BY DEATH No 700396438
to
MARY GRETA BUBB TENANT IN COMMON 1/5
HELEN MARGARET EDMONDS TENANT IN COMMON 4/15
ANN LOUISE SCHILLER TENANT IN COMMON 4/15
MARY ELIZABETH TURNER TENANT IN COMMON 4/15
Produced at 09:48 on 13/12/1994

ESTATE AND LAND

Estate in Fee Simple

LOT 153 CROWN PLAN E3137
County of STANLEY Parish of SOUTH BRISBANE
Local Government: BRISBANE CITY

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. CANCELLATION No 708775512
LEASE: 705531346
Produced at 13:03 on 28/06/2005
2. MORTGAGE No 706537088
WESTPAC BANKING CORPORATION A.B.N. 33 007 457 141
Produced at 09:28 on 17/04/2003
3. APPLICATION FOR TITLE No 705731345
A Certificate of Title has been issued
Produced at 15:17 on 24/06/2002



HISTORICAL TITLE SEARCH

NATURAL RESOURCES & MINES, QUEENSLAND

Request No: 1111882

Search Date: 28/09/2005 11:52 am

Title Reference: 16060017

Date Created: 21/11/1980

EASEMENTS, ENCUMBRANCES AND INTERESTS (Continued)

4. LEASE No 705531346 CANCELLED BY 708775512
CUTTING EDGE POST PTY LTD A.C.N. 057 511 430
Produced at 15:31 on 09/04/2002
5. CORRECTION No 703171559
to remove
LEASE 700843360
Produced at 08:57 on 16/02/1999
6. CORRECTION No 703171419
to remove
LEASE 700843360
Produced at 08:28 on 16/02/1999
7. LEASE No 703147692
CUTTING EDGE POST PTY LTD A.C.N. 057 511 430
Produced at 15:17 on 02/02/1999
8. APPLICATION FOR TITLE No 700996059
A duplicate copy of this Title has been requested.
Produced at 10:31 on 10/11/1995
9. CANCELLATION No 700989313
of
LEASE: 601743275 (G802535)
Produced at 12:40 on 07/11/1995
10. LEASE No 700843360
to
CUTTING EDGE COMMERCIAL & CORPORATE POST PRODUCTION PTY LTD

Original term commencing
28/06/1995
Terminating
27/06/1998
with options as therein stated over the whole of the land
Produced at 15:12 on 06/09/1995
11. RELEASE No 700843344
of
MORTGAGE: 601743276 (H413163)
Produced at 15:10 on 06/09/1995



HISTORICAL TITLE SEARCH

NATURAL RESOURCES & MINES, QUEENSLAND

Request No: 1111882

Search Date: 28/09/2005 11:52 am

Title Reference: 16060017

Date Created: 21/11/1980

EASEMENTS, ENCUMBRANCES AND INTERESTS (Continued)

12. TRANSFER No 601743278 (L479609Y)
IN LEASE NO L182602B
TO FORESIGHT HOLDINGS PTY LTD
Produced at 00:00 on 10/05/1993
13. LEASE No 601743277 (L182602B) CANCELLED BY 601743278
TO ZENAC PRODUCTIONS PTY LTD
ORIGINAL TERM: COMMENCING 28 FEB 1992
TERMINATING 27 JUN 1995
OR OPTIONS AS MAY BE STATED
Produced at 00:00 on 09/09/1992
14. MORTGAGE No 601743276 (H413163) CANCELLED BY 700843344
TO COMMONWEALTH BANK OF AUSTRALIA
Produced at 00:00 on 01/10/1984
15. LEASE No 601743275 (G802535) CANCELLED BY 700989313
TO ZENAC PRODUCTION PTY LTD
FOR 5 YEARS
ORIGINAL TERM: COMMENCING 28 DEC 1981
OR OPTIONS AS MAY BE STATED
Produced at 00:00 on 01/09/1982
16. RELEASE No 700842175 REMOVED
Produced at 11:14 on 06/09/1995
17. Rights and interests reserved to the Crown by
Deed of Grant No. 10547135 (ALLOT 13 SEC 44)

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Historical Title Search **

COPYRIGHT THE STATE OF QUEENSLAND (NATURAL RESOURCES & MINES) [2005]
Requested By: External Supervisor

UNDIVIDED MOIETY

Certificate of Title.

VOL. S 3051 FOL. 227



13051227

(C)

QUEENSLAND.

No. 627987

Reference to Previous Volume	Folio
2682	34



Register Book, Vol. 3051 Folio 227

VINCENT JOSEPH NUCIFORA

FULLY CANCELLED

of _____ pursuant to Memorandum
of Conveyance No. B485728 produced the twenty ninth day of May 19 57
registered the eighth day of July 19 57, is now seized of an Estate in Fee-simple, as tenant
in common with another in one undivided half part or
share, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that
piece of Land situated in the County of Stanley Parish of South Brisbane
City of Brisbane formerly city of South Brisbane containing Thirty six perches
more or less, as shown on the Plan hereon, and therein edged red,
Being Allotment 13 of Section 44

on Plan Cat. No. _____ deposited in the Office of the Registrar of Titles, Brisbane,
which said piece of Land is the whole of the allotment marked 13 of section 44
of the said city deposited in the Office of the Surveyor-General, originally granted by Deed of Grant
No. 59375

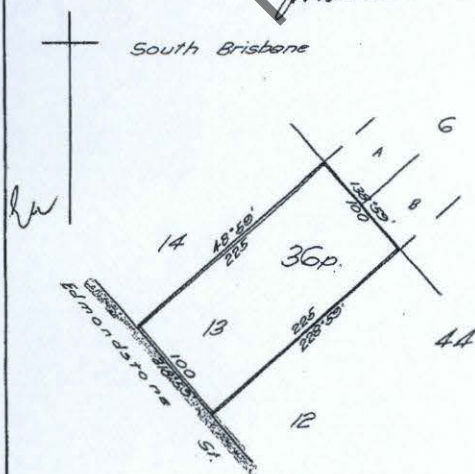
Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this twenty ninth
day of August One thousand nine hundred and fifty seven

Signed, Sealed, and Delivered, this 29th
day of August 19 57, in presence of)

South Brisbane

REGISTRAR OF TITLES



Scale / chains per inch.

626973 BILL OF MORTGAGE produced 31 May
1957 at 10:0 A.M. registered 29 May 1957
from Robert and Nuciafora and
Vincent Joseph Nucifora to
BANK OF NEW SOUTH WALES
to secure the payment of the monies and interest therein referred to

RELEASED BY
No. 11-10-10
Prod. 11-10-10
Road

REGISTRAR OF TITLES

REGISTRAR OF TITLES

REGISTRAR OF TITLES

Certificate of Title.

VOL: 5 2682 FOL: 34



12682034

No. 538544

(C)

Reference to Previous Volume	Folio
---------------------------------	-------

2632	104, 105
------	----------

QUEENSLAND.



Register Book, Vol. 2682 Folio 34

FRANK CALI

FULLY CANCELLED

_pursuant to Memorandum

of Conveyance No. B81048 produced the thirtieth day of January 1952,
registered the thirtieth day of April 1952, is now seized of an
Estate in Fee-simple, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon,
in All that piece of Land situated in the County of Stanley Parish of South Brisbane
City of Brisbane formerly City of South Brisbane containing Thirty six perches

more or less, as shown on the Plan hereon, and therein edged red,

Being Allotment 13 of section 44

on Plan Cat. No. _____ deposited in the Office of the Registrar of Titles, Brisbane,
which said piece of Land is the whole of the allotment marked 13 of section 44
delineated in the Public Map of the said city deposited in the Office of the Surveyor-General, originally
granted by Deed of Grant No. 59375

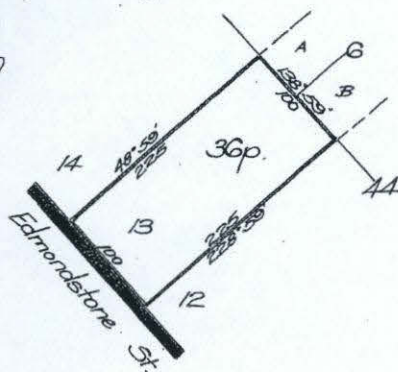
Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this eighteenth day of September One thousand nine hundred and fifty two

Signed, Sealed, and Delivered, the 18th
day of September 1952, in presence of

b. Amshong
S. Brisbane

REGISTRAR OF TITLES.



Scale, / chains per inch.

No. 810497 BILL OF MORTGAGE produced 30 Jan
1952
No. 810497 produced 30 Jan 1952
The Commercial Bank of Australia Limited
to secure the payment of monies and interest therein referred to.
RELEASE Not endorsed
Bill of Mortgage No. 810497
31 May 1952
REGISTRAR OF TITLES

REGISTRAR OF TITLES

OFFICE

FULLY CANCELLED

PURSUANT to Memo. of TRANSFER No 3266973 produced
31 May 1954 at 10.0 a.m., registered 29 Sept 1954
Sebastiano Nucifora and
Vincent Joseph Nucifora
are now SEISED of an Estate IN FEE
 SIMPLE in the WHOLE of the within Land a joint tenants

Thomson
 REGISTRAR OF TITLES

21/ 8572 8
 10.0

No 3266973 BILL OF MORTGAGE produced 31 May
1954 at 10.0 a.m., registered 29 Sept 1954
 from Sebastiano Nucifora and
Vincent Joseph Nucifora — to
 BANK OF NEW SOUTH WALES
 to secure the payment of the monies and interest therein referred to

Thomson
 REGISTRAR OF TITLES

No 3266973 TRANSFER of the whole of the land to
Sebastiano Nucifora and Vincent
Joseph Nucifora Produced
29 May 1954 at 10.0 a.m. registered 8 July 1954
 Cancelled in full vide Vol. 3051 Folio 227, 228
 Subject to Bill of Mortgage No B 266973

Thomson
 REGISTRAR OF TITLES

FULLY CANCELLED

FULLY CANCELLED

FULLY CANCELLED

RTI DL RELEASE - EHP

UNDIVIDED MOIETY

Certificate of Title.

VOL: S 3051 FOL: 228



13051228

QUEENSLAND.



No. 627988

(C)

Reference to Previous Volume	Folio
2682	34

Register Book, Vol. 3051 Folio 228

SEBASTIANO NUCIFORA

FULLY CANCELLED

of _____ pursuant to Memorandum of Conveyance No. B485728 produced the twenty ninth day of May 19 57, registered the eighth day of July 19 57, is now seized of an Estate in Fee-simple, as tenant in common with another in one undivided half part or share, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that piece of Land situated in the County of Stanley Parish of South Brisbane City of Brisbane formerly city of South Brisbane containing Thirty six perches

more or less, as shown on the Plan hereon, and therein edged red, Being Allotment 13 of Section 44

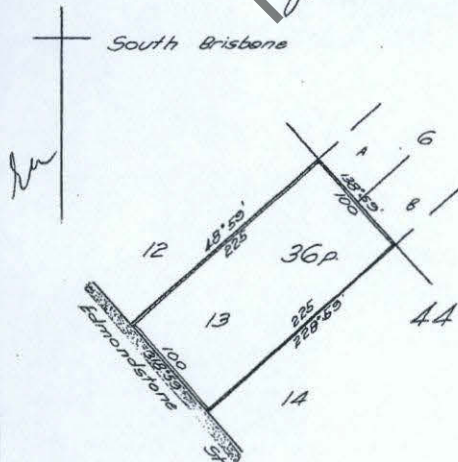
on Plan Cat. No. _____ deposited in the Office of the Registrar of Titles, Brisbane, which said piece of Land is the whole of the allotment 13 of section 44, marked _____ delineated in the Public Map of the said city deposited in the Office of the Surveyor General, originally granted by Deed of Grant No. 59375

Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this twenty ninth day of August One thousand nine hundred and fifty seven

Signed, Sealed, and Delivered, the 29th day of August 19 57, in presence of)

South Brisbane



Scale / chains per inch.

REGISTRAR OF TITLES

RELEASED Under Power of Attorney

13051228 BILL OF MORTGAGE produced 31 May 1954 at 1004, registered 29.8.54 1954 from Sebastiano Nucifora and Vincent Nucifora to BANK OF NEW SOUTH WALES to secure the payment of the monies and interest therein referred to

REGISTRAR OF TITLES

REGISTRAR OF TITLES



No. D40708 Bill of sale
to Chambers Bank of Australia
Produced 1970
Registered 1970
Regd. 1970
REGISTER OF TITLES
QUEENSLAND

RL 610158
#610158
(date) 22-9-80

No. E 68877 the registered proprietor having
died on 25 Dec 1970, the within land is transmitted
to Vincent Joseph Nucifra
as devisee in trust
Under Will dated 2 Aug 1965
Produced 28 July 1971 at 6.22 a.m. Entered
10.3.73 1973
subject to bill of mortgage No. D407080
James H. ...
REGISTER OF TITLES
QUEENSLAND

T/D
E68877

H/G 201736

TRANSFER of the whole of the land to Quilbarras
(old) by demise
No. G201736 PRODUCED 30 Oct 1980
at 11.05 a.m. REGD. 12 NOV 1980
Vol. 6060
Fol. 17
James H. ...
REGISTER OF TITLES
QUEENSLAND

FULLY CANCELLED

RTI DL RELEASE - EHP

QUEENSLAND.

CERTIFICATE OF TITLE

Original
Deed of Grant

Register

Vol. 6060 Fol. 17

59375

VOL: 6060 FOLIO: 17



16060017

(Page 1)

Dealing No.. G201736

Reference to previous

Vol. 3051

Fol. 227 and 228



Issued: 21 November, 1980

A 18680

No.

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 easements encumbrances and interests as are shown in the Second Schedule.

Witness:

*[Signature]**[Signature]*

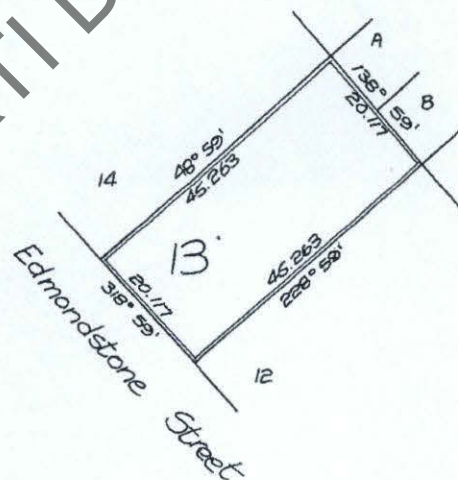
Registrar of Titles.

Estate and Land Referred To

Estate in Fee Simple in Allotment 13 of section 44 County of Stanley Parish of South
Brisbane City of Brisbane
Containing 911 square metres

FIRST SCHEDULEANTHAVA (QLD) PTY LIMITEDSECOND SCHEDULE

1. Rights and interests reserved to the Crown by the Deed of Grant above referred to.

PLAN OF LAND

Scale 1:800

NOTE: Entries ruled through and authenticated by the Seal of the Registrar of Titles are cancelled.

FIRST SCHEDULE (continued)

[illegible]

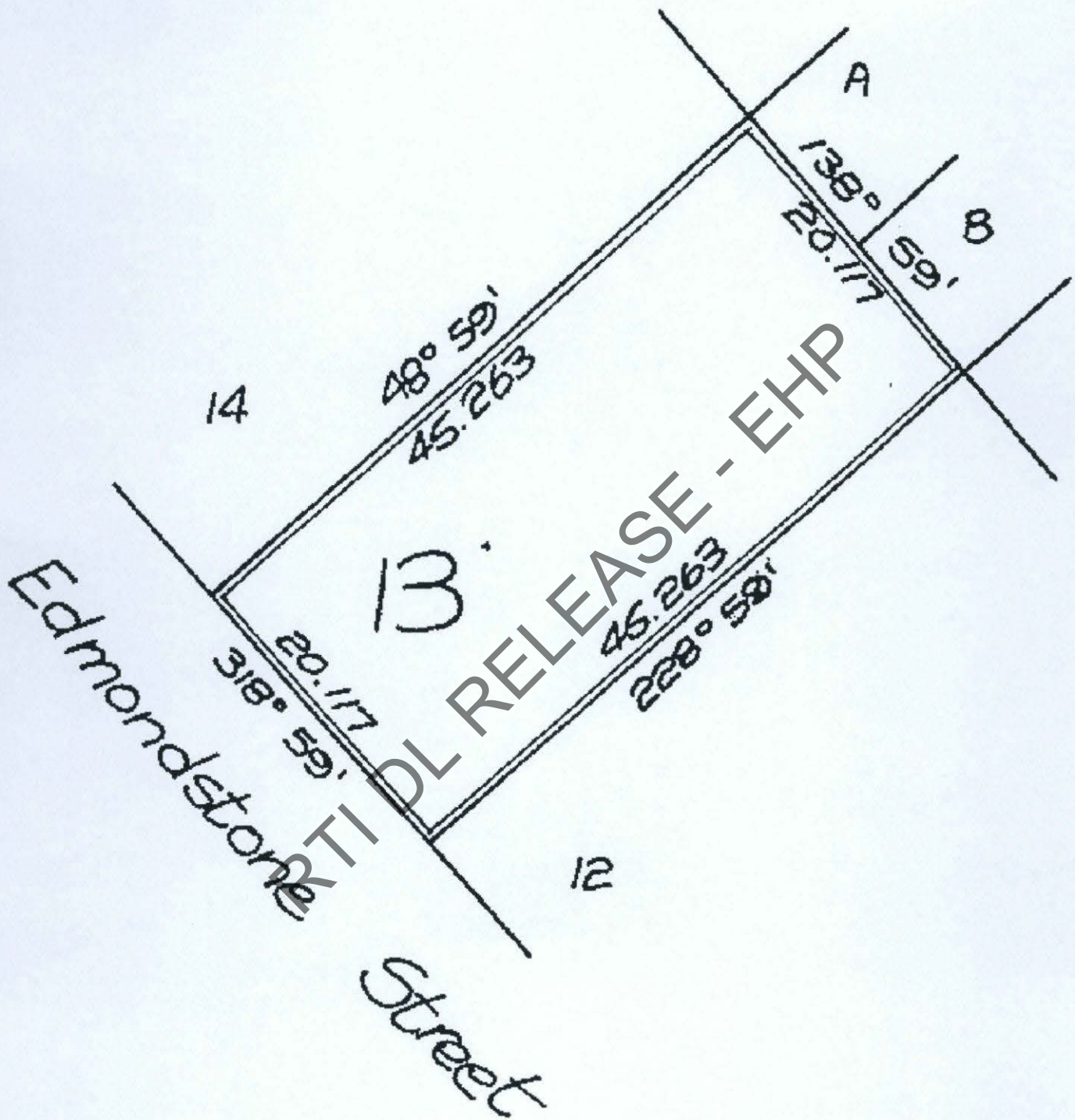
SECOND SCHEDULE (continued)

[illegible]

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

75384/5/79—35M—P/L—Govt. Printer, Qld.

* Dealings with this Lease will be Registered on the Original Lease only instead of on this Certificate of Title.



APPENDIX C

EMR AND CLR SEARCHES

RTI DL RELEASE EHP

QLD ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 770643 EMR Site Id: 28 September 2005

This response relates to a search request received for the site:

Lot: 153 Plan: B3137

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

Note: Under the amended Regulation on 1 July 2005 the statutory fee for a search extract increased to \$34.00 per lot for Internet Searches & \$40.00 per lot otherwise. Extra service fees apply for CITEC CONFIRM'S Internet and Express services.

*******Please update your records with the above advice*******

If you have any queries in relation to this search please phone (07) 3227 7370.

Lindi Bowen
Registrar, Contaminated Land Unit

APPENDIX D

REGISTERED PLAN

RTI DL RELEASE EHP



This is a detailed street map of a section of Boston, Massachusetts. The map shows a grid of streets, including Montague St, Burnside St, and others. The map is heavily marked with 'X's, likely indicating specific locations of interest. A large diagonal watermark reading 'RTIDLE RELEASE' is overlaid across the map. Handwritten notes and addresses are visible throughout the map area, including 'B.3.1483', 'B.3.1484', and 'B.3.1485'. The map also shows various landmarks and buildings, such as 'R.C. CHURCH' and 'R.C. CHURCH'.

[illegible]

OF SEITI

[illegible]

Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ	Sec ⁿ							
52377 52378	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	36	52371 52372 52488 52400 52575	137	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	38	5245687 52378	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	40	52453 52434 52464 52463 51037 52462 51086 51039 52461	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	42	524064 54592 52375 52381 59374 59025 52744 52743	1 2 3 4 5 6 7 8 9 10 11 12 13 14	44	524066 524063 52458 52376 52386

Lot 1-21, 31-67, 71-129, 141-155, 161-236 & 241-246

~~OF SECTIONS 35A, 35 TO 38, 40, 42, 44 TO 48 & 52~~

Parish of South Brisbane

COUNTY OF STANLEY

Scale 4 chains to 1 inch

[illegible]

**For Additional Plan &
Document Notings
Refer to CISP**

B.3.137

APPENDIX E

BORE LOGS

RTI DL RELEASE - EHP



Morrison Geotechnic Pty Ltd

A.B.N. 051 009 878 899

PO Box 3063, Darra, QLD 4076

Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - BoreholeBorehole No.: **BH1**

Page: 1 of 4

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northing:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 15.08

Date: 27/07/2005

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger			0.15				Concrete: Reinforced concrete slab							
			0.2			FIL	Sand (SP): Fine to medium bedding sand, grey		M	MD				
			0.4			FIL	Sandy Clay (CI): Medium plasticity clay, fine to coarse sand, dark brown to red, contains broken bricks		M	St				
			0.5			SM	Sandy Clay (CI): As above except no broken brick		M	L				
			0.75			SM	Silty Sand : Fine to medium sand, dark grey, some clay fines		M	L				
			1.0			CH	Silty Sand : As above except grey		M	VSt - H				
			1.4			CH	Silty Clay : High plasticity clay, trace of fine sand orange - brown		M	VSt - H				
			2.0			CH	Sandy Clay: High plasticity clay, pale grey, trace of fine to medium gravel		M	H				
			3.0			CH	Silty Clay : High plasticity clay, pale grey mottled red in places, with some fine to coarse gravel		M	St - VSt				
			3.6			CH	Silty Clay : As above except some fine brown sandstone gravel		M	St - VSt				
Washbore Blade Bit			3.75			CH	Silty Clay : As above except no gravel and pale grey fine sand		M	VSt - H				
			3.85			CH	Silty Clay : As above except no gravel and pale grey fine sand		M	VSt - H				
			4.0			CH	Silty Clay : High plasticity clay with some fine brown sandstone		M	St - VSt				

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
Water outflow	DW Distinctly weathered	St Stiff	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	VSt Very stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

Morrison Geotechnic Pty Ltd

A.B.N. 051 009 878 899

PO Box 3063, Darra, QLD 4076

Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - BoreholeBorehole No.: **BH1**

Page: 2 of 4

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northing:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 15.08

Date: 27/07/2005

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade Bit						CH	Silty Clay : High plasticity clay with some fine brown sandstone		M	St-VSt				
			4.15			SM	Silty Sand : Fine sand, pale brown		M	MH St-VSt				
			4.2			CH	Silty Clay : High plasticity clay with 50 mm thick silty sand to sand layer (Wet), pale grey and orange brown		M	St-VSt				
												4.5	SPT	6/4/6 N=10
			5.0											
												6	U50	PP=350kPa
			6.0											
						CH	Silty Clay : As above except grey brown		M	VSt				
			6.6											
			6.9			CH	Silty Clay : High plasticity clay, pale grey, variable strength		M	St-VSt				
		7.0										7.5	SPT	4/5/6 N=11 (PP=350kPa)
			8.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
▼ Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
► Water inflow	XW Extremely weathered	S Soft	L Loose	LS Low	D Disturbed sample.
◄ Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	LS Low	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	VSt Very stiff	HS High	MS Medium	S Vane shear value kPa
		H Hard	VD Very dense	VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		Moisture		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes
		D Dry M Moist W Wet			

Morrison Geotechnic Pty Ltd

A.B.N. 051 009 878 899
PO Box 3063, Darra, QLD 4076
Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - Borehole

Borehole No.: BH1

Page: 3 of 4

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

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RL:

Logged By: G. Rose

Total Depth: 15.08

Date: 27/07/2005

Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
			9.0			CH	Silty Clay : High plasticity clay, pale grey, variable strength		M	St - VSt	
			9.4			MH	Silt: High plasticity silt, dark grey mottled black		M	St - VSt	
			9.5			CH	Silty Clay : Pale grey clay		M	St - VSt	
			9.8			CH	Silty Clay : As above except with some fine - coarse sand and fine quartz gravel		M	St - VSt	
			10.0								
			10.3			CH	Sandy Clay: As above except sandy clay and very stiff		M	St - VSt	
			10.5			SP	Clayey Gravelly Sand: Fine to coarse sand, fine quartz gravel, high plasticity clay, pale grey orange brown		M	MD-D	
			11.0								
			11.1			SP	Clayey Gravelly Sand: As above except less clay fines and pale grey		M	MD-D	
			11.6			SP	Clayey Gravelly Sand: As above except with grey phyllite fragments, quartz veins in phyllite		M	MD-D	
			11.75			SP	Clayey Gravelly Sand: As above with increase in clay fines		M	MD-D	
			12.0								

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

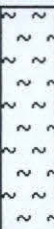
Morrison Geotechnic Pty Ltd

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Engineering Log - Borehole**Borehole No.: BH1****Page: 4 of 4****Job Number: 205E/175****Easting:****Drilling Rig:** EHV2000**Client:** Aria Properties Group**Northing:****Driller:** Sutherland Exploration**Project:** Geotechnical Site Investigation**RL:****Logged By:** G. Rose**Location:** 4 Edmondstone Street, South Brisbane**Total Depth:** 15.08**Date:** 27/07/2005

Drilling Information				Material Description						Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result	
Washbore Blade Bit			12	Bedrock		PHY	XW Phyllite : Extremely weathered, extremely low to low strength, some CL clay layers grey brown	XW		EL-L		12	SPT	14/18/24 N=42	
		12.8	PHY			XW Phyllite : As above except low strength with quartz veining and clay layers	XW								
		13.0													
		14.0										13.5	SPT	12/21/30/115mm N=60	
		14.2	PHY	DW Phyllite : Distinctly weathered, grey and brown with some thin quartz veins	DW	MS									
			15.0									15	SPT	30/80mm N=112	
			15.08	15.08m: BOREHOLE TERMINATED											
			16.0												

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
▼ Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
▶ Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
◀ Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH2

Page: 1 of 5

Job Number: 205E/175

Eastings:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northings:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 16.59

Date: 27/07/2005

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
			0.15				Concrete: Reinforced concrete slab				
			0.2	FIL		FIL	Silty Sand (SM): Fine to coarse grained bedding sand, orange - brown, moist.	M	L		
			0.35	FIL		FIL		M	L		
							Silty Sand (SM): Fine to medium sand, some coarse brown	M	MD		
			0.6	Natural		CH	Silty Sand (SM): As above except medium dense and orange brown	M	VSt		
			1.0				Sandy Clay: High plasticity clay, fine to medium sand, pale grey mottled red brown				
			1.2			SC	Clayey Sand: Fine to medium grained sand, pale grey and orange grey	M	D		
			1.5			SC	Sandy Clay/ Clayey Sand: Sandy clay/ clayey sand, pale grey mottled orange brown with a trace of fine gravel	M	D		
			2.0								
			2.2			SC	Sandy Clay/ Clayey Sand: As above except pale grey and sandy clay (CH) with high plasticity	M	H		
			2.6			SC	Sandy Clay/ Clayey Sand: As above except pale grey mottled orange	M	H		
			2.75			SC		M	H		
			3.0				Sandy Clay/ Clayey Sand: As above except increase in sand content, layers of and less sand content in clay				
			3.45			CH	Silty Clay: High plasticity clay with a trace of fine sand, pale grey/orange brown	M	H		
			4.0								

Comments:						Authorised by:	
						Date:	
Water	Weathering	Consistency	Density	Rock Strength	Tests & Results		
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.		
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.		
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.		
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.		
	FR Fresh	VSt Very stiff	VD Very dense	HS High	S Vane shear value kPa		
		H Hard		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.		
				EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes		

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Engineering Log - Borehole

Borehole No.: BH2

Page: 2 of 5

Job Number: 205E/175

Easting: Drilling Rig: EHV2000
Northing: Driller: Sutherland Exploration
RL: Logged By: G. Rose
Total Depth: 16.59 Date: 27/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description						Test Samples				
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade Bit						CH	Silty Clay : High plasticity clay with a trace of fine sand, pale grey/orange brown		M	H				
			4.25			CH	Silty Clay : As above except sandy clay layers with sands (SP), MD, fine to medium grained with orange stains		M	St-VSt				
			4.7			CH	Silty Clay : As above except with fine quartz gravel		M	St-VSt				
			5.0			CH	Silty Clay : As above except trace of fine gravel and increased sand content		M	St-VSt				
			5.6			CH	Sandy Clay: High plasticity clay, with fine gravel sized sandy nodules which are brown clay, pale grey		M	St-VSt				
			6.0											
			6.35			SP	Sand: Fine to medium sand, pale grey		M	MD				
			7.0											
		7.1			CH	Silty Clay : High plasticity clay, with ironstone layers forming fine to medium gravels when cut by blade and a trace of fine sand, pale grey with brown ironstone gravel		M	VSt - H					
			8.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
<div> <div>Water level</div> <div>on date shown</div> <div>Water inflow</div> <div>Water outflow</div> </div>	RS Residual soil XW Extremely weathered DW Distinctly weathered SW Slightly weathered FR Fresh	VS Very soft S Soft F Firm St Stiff Vst Very stiff H Hard Moisture D Dry M Moist W Wet	VL Very loose L Loose MD Medium dense D Dense VD Very dense W Wet	ELS Extremely low VLS Very low LS Low MS Medium HS High VHS Very high EHS Extremely high	U50 Undisturbed 50mm diam tube. D Disturbed sample. SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm. PP Hand penetrometer estimate of unconfined compressive strength, kPa. S Vane shear value kPa DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH2

Page: 3 of 5

Job Number: 205E/175

Easting: Drilling Rig: EHV2000
Northing: Driller: Sutherland Exploration
RL: Logged By: G. Rose
Total Depth: 16.59 Date: 27/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description						Test Samples				
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade Bit			8.2			CH	Silty Clay : High plasticity clay, with ironstone layers forming fine to medium gravels when cut by blade and a trace of fine sand, pale grey with brown ironstone gravel		M	VSt - H				
						CH	Silty Clay : High plasticity clay, pale grey with some dark grey layers and trace of fine grained sand		M	VSt - H				
			8.65			CH	Silty Clay : As above, except increase in strength, drilling rig working harder		M	VSt - H				
			9.0			CH	Silty Clay : As above except pale grey only		M	VSt - H				
			10.0											
			10.8			CH	Silty Clay : As above except hard, dark grey and pale grey		M	H				
			11.0											
			11.25			CH	Silty Clay : As above except dark grey brown		M	VSt - H				
			11.7			CH	Silty Clay : As above except soft, some yellow fragments of sandy clay, possible phyllite fragments		M	S				
			12.0											

Comments:						Authorised by:					
						Date:					
Water	Weathering	Consistency	Density	Rock Strength	Tests & Results						
▼ Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.						
► Water inflow	XW Extremely weathered	S Soft	L Loose	low	D Disturbed sample.						
► Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.						
	SW Slightly weathered	St Stiff	D Dense	LS Low	PP Hand penetrometer estimate of unconfined compressive strength, kPa.						
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa						
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.						
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes						

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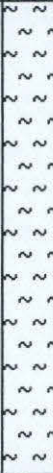
Engineering Log - Borehole**Borehole No.: BH2**

Page: 4 of 5

Job Number: 205E/175

Easting: Drilling Rig: EHV2000
Northing: Driller: Sutherland Exploration
RL: Logged By: G. Rose
Total Depth: 16.59 Date: 27/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description					Test Samples						
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result	
Washbore Blade Bit			12.2			CH	Silty Clay : As above except soft, some yellow fragments of sandy clay, possible phyllite fragments		M	S		12	SPT	2/1/2 N=3 (PP=90-150kPa)	
						CH	Silty Clay : As above with fine grain sized fragments of XW ELS phyllite		M	VSt - H					
			12.75			GC	Clayey Gravel: Quartz with gravel, brown, gravel - sand - clay mixture, quartz has some fragments of XW phyllite		M	F (clay) MD (sand)					
			13.0												
			13		PHY	XW Phyllite : Extremely weathered, extremely low to low strength, some CL clay layers grey brown	XW		ELS MS						
			14.0												
			14.65				PHY	XW Phyllite : XW VLS phyllite bedrock grey brown	XW		VLS		13.5	SPT	7/11/15 N=26
		15.0													
		15.9										15	SPT	30/120mm N=75	
		16.0				PHY	DW Phyllite : DW, LS phyllite grey	DW		MS					

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
▼ Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
► Water inflow	XW Extremely weathered	S Soft	L Loose	LS Low	D Disturbed sample.
► Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole**Borehole No.: BH2**

Page: 5 of 5

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northing:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 16.59

Date: 27/07/2005

Drilling Information				Material Description						Test Samples				
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade			16.59		~ ~ ~ ~ ~	PHY	DW Phyllite : DW, LS phyllite grey	DW		MS		16.5	- SPT	- 30/90mm N=100
			17.0				16.59m: BOREHOLE TERMINATED							
			18.0											
			19.0											
			20.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	VSt Very stiff	VD Very dense	HS High	S Vane shear value kPa
		H Hard		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
				EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH3

Page: 1 of 5

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northing:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 16.64

Date: 28/07/2005

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger			0.15	FIL			Concrete: Reinforced concrete slab							
			0.2	FIL		FIL	Silty Sand (SM): Fine to coarse grained bedding sand, orange - brown, moist.		M	L				
							Clayey Sandy Gravel (GC): Fine to medium gravel, fine to coarse sand and Cl clay fines, grey brown		M	L - MD				
			0.6	Natural		SM	Clayey Silty Sand: Fine to medium sand and trace of coarse sand dark brown		M	MD				
			1.0											
			1.4			CH	Sandy Clay: High plasticity clay with MD-D sand layers, brown		M	H				
			1.6			SC	Clayey Sand: Fine to medium grained sand, orange - brown		M	MD				
			2.0			CH	Sandy Clay: High plasticity clay, fine to coarse sand and rare fine gravel, orange to brown		M	VSI - H				
			2.3			CH	Sandy Clay: As above except grey and orange		M	VSI				
			2.6			CH	Sandy Clay: High plasticity clay, grey		M	H				
Washbore Blade Bit			3.0											
			3.8			CH	Sandy Clay: As above except increase in sand layers and sandy clay. Thin 20 mm layers of indurated oxidised sandy clay - forming gravels when drilled of pale to grey colour with brown indurated layers		M	St - VSI				
		4.0												

Comments:						Authorised by:	
						Date:	
Water	Weathering	Consistency	Density	Rock Strength	Tests & Results		
Water level	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.		
on date shown	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.		
Water inflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.		
Water outflow	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.		
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa		
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.		
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes		

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Engineering Log - Borehole

Borehole No.: BH3

Page: 2 of 5

Job Number: 205E/175

Easting:
Northing:
RL:
Total Depth: 16.64

Drilling Rig: EHV2000
Driller: Sutherland Exploration
Logged By: G. Rose
Date: 28/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade Bit			5.0			CH	Sandy Clay: As above except increase in sand layers and sandy clay. Thin 20 mm layers of indurated oxidised sandy clay - forming gravels when drilled of pale to grey colour with brown indurated layers		M	St - VSt		4.5	SPT	5/10/8 N=18kPa (PP=150-220kPa)
			6.0			CH	Sandy Clay: As above except hard		M	H		6		
			7.0											
			7.1			CH	Silty Clay : High plasticity clay, hard, some fine sand, pale grey with some dark grey layers		M	H		7.5	SPT	3/5/7 N=12 (PP=450kPa)
			8.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	VSt Very stiff	VD Very dense	HS High	S Vane shear value kPa
		H Hard		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		Moisture		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes
		D Dry M Moist W Wet			

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Engineering Log - Borehole

Borehole No.: BH3

Page: 3 of 5

Job Number: 205E/175

Easting:

Drilling Rig: EHV2000

Client: Aria Properties Group

Northing:

Driller: Sutherland Exploration

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 16.64

Date: 28/07/2005

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade Bit			8.2			CH	Silty Clay : High plasticity clay, hard, some fine sand, pale grey with some dark grey layers		M	H				
						CH	Silty Clay : As above except grey with orange brown mottles		M	H				
			9.0	9		CH	Silty Clay : As above except very stiff		M	VSt		9	SPT	4/6/6 N=12 (PP=350kPa)
			10.0											
			10.2			CH	Silty Clay : As above except with black silty layers		M	St		10.5	SPT	2/4/5 N=9 (PP=170kPa)
			10.9	11.0		CH	Silty Clay : As above with a trace of fine to medium sand		M	St				
			11.1			CH	Silty Clay : As above except no black silty layers, no sand		M	F-St				
		11.7			CH	Silty Clay : As above except green grey and sands (clay nodules - brown). Trace of black clay nodules		M	F-St					
			12.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
<div> <div>Water level</div> <div>on date shown</div> </div> <div> <div>Water inflow</div> </div> <div> <div>Water outflow</div> </div>	RS Residual soil XW Extremely weathered DW Distinctly weathered SW Slightly weathered FR Fresh	VS Very soft S Soft F Firm St Stiff VSt Very stiff H Hard Moisture D Dry M Moist W Wet	VL Very loose L Loose MD Medium dense D Dense VD Very dense W Wet	ELS Extremely low VLS Very low LS Low MS Medium HS High VHS Very high EHS Extremely high	U50 Undisturbed 50mm diam tube. D Disturbed sample. SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm. PP Hand penetrometer estimate of unconfined compressive strength, kPa. S Vane shear value kPa DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

Morrison Geotechnic Pty Ltd

A.B.N. 051 009 878 899
PO Box 3063, Darra, QLD 4076
Phone: (07) 3279 0900 Fax: (07) 3279 0955

Engineering Log - Borehole

Borehole No.: BH3

Page: 4 of 5

Job Number: 205E/175

Easting: Drilling Rig: EHV2000
Northing: Driller: Sutherland Exploration
RL: Logged By: G. Rose
Total Depth: 16.64 Date: 28/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description						Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result	
Washbore Blade Bit						CH	Silty Clay : As above except green grey and sands (clay nodules - brown). Trace of black clay nodules		M	F-St		12	SPT	2/3/4 N=7 (PP=190kPa)	
			12.6	Bedrock		PHY	XW Phyllite : Extremely weathered, extremely low strength phyllits brown with quartz gravel from quartz veins and CL clay layers	XW	M	ELS					
		13.0											13.5	SPT	6/11/14 N=15
		14.0													
		14.5				PHY	Phyllite : Extremely weathered, very low strength phyllite	XW	M	VLS					
			15.0									15	SPT	14/18/26 N=44	
			15.85				Phyllite : As above except increase in strength (rig working harder)	XW		VLS - LS					
			16.0												

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	VLS Very low	D Disturbed sample.
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole**Borehole No.: BH3****Page: 5 of 5****Job Number: 205E/175****Easting:****Drilling Rig:** EHV2000**Client:** Aria Properties Group**Northing:****Driller:** Sutherland Exploration**Project:** Geotechnical Site Investigation**RL:****Logged By:** G. Rose**Location:** 4 Edmondstone Street, South Brisbane**Total Depth:** 16.64**Date:** 28/07/2005

Drilling Information				Material Description					Test Samples					
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
Washbore Blade			16.64		~ ~ ~ ~ ~	PHY	Phyllite : As above except increase in strength (rig working harder)	XW		VLS - LS		16.5	- SPT	- 30/140mm N=64
			17.0				16.64m: BOREHOLE TERMINATED							
			18.0											
			19.0											
			20.0											

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
▼ Water level — on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
► Water inflow	XW Extremely weathered	S Soft	L Loose	LS Low	D Disturbed sample.
► Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	H Hard	VD Very dense	HS High	S Vane shear value kPa
		Moisture		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		D Dry M Moist W Wet		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes

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Engineering Log - Borehole

Borehole No.: BH4

Page: 1 of 3

Job Number: 205E/175

Client: Aria Properties Group

Project: Geotechnical Site Investigation

Location: 4 Edmondstone Street, South Brisbane

Easting:

Drilling Rig: Jacro 105

Northing:

Driller: R. Battison

RL:

Logged By: G. Rose

Total Depth: 12.00

Date: 29/07/2005

[illegible]

Comments:

Authorised by:

Date:

Water	Weathering		Consistency		Density		Rock Strength		Tests & Results	
 Water level on date shown	RS	Residual soil	VS	Very soft	VL	Very loose	ELS	Extremely low	U50	Undisturbed 50mm diam tube.
			S	Soft	L	Loose			D	Disturbed sample.
 Water inflow	XW	Extremely weathered	F	Firm	MD	Medium dense	VLS	Very low	SPT	Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	DW	Distinctly weathered	St	Stiff			LS	Low		
			VSt	Very stiff	D	Dense	MS	Medium	PP	Hand penetrometer estimate of unconfined compressive strength, kPa.
 Water outflow			H	Hard	VD	Very dense	HS	High	S	Vane shear value kPa
	SW	Slightly weathered					VHS	Very high	DC	Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
							EHS	Extremely high		
	FR	Fresh	Moisture							From AS1289-1993 Methods of Testing Soils for Engineering Purposes
			D Dry	M Moist	W Wet					

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Engineering Log - Borehole

Borehole No.: **BH4**

Page: 2 of 3

Job Number: 205E/175

Easting:
Northing:
RL:
Total Depth: 12.00

Drilling Rig: Jacro 105
Driller: R. Battison
Logged By: G. Rose
Date: 29/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation
Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
			5.0			CH	Silty Clay : High plasticity clay with some fine grained sand, grey streaked orange brown		M	VSt-H	
			5.3			CH	Silty Clay : As above except stiff with some sand lenses		M	St	
			5.9			CH	Silty Clay : As above except water coming into hole through sand lenses (SWL at 6.0m)		M	St	
			6.0								
			7.0								
			7.6			CH	Silty Clay : High plasticity clay, with some black silty clay layers, water coming in from sand layers above		M	VSt-H	
			8.0								

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
<div> <div>Water level</div> <div>on date shown</div> </div> <div> <div>Water inflow</div> <div>Water outflow</div> </div>	RS Residual soil XW Extremely weathered DW Distinctly weathered SW Slightly weathered FR Fresh	VS Very soft S Soft F Firm St Stiff VSt Very stiff H Hard Moisture D Dry M Moist W Wet	VL Very loose L Loose MD Medium dense D Dense VD Very dense	ELS Extremely low VLS Very low LS Low MS Medium HS High VHS Very high EHS Extremely high	U50 Undisturbed 50mm diam tube. D Disturbed sample. SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm. PP Hand penetrometer estimate of unconfined compressive strength, kPa. S Vane shear value kPa DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section. From AS1289-1993 Methods of Testing Soils for Engineering Purposes

Engineering Log - Borehole

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Borehole No.: **BH4**

Page: 3 of 3

Job Number: 205E/175

Easting:		Drilling Rig:	Jacro 105
Northing:		Driller:	R. Battison
RL:		Logged By:	G. Rose
Total Depth:	12.00	Date:	29/07/2005

Client: Aria Properties Group
Project: Geotechnical Site Investigation

Location: 4 Edmondstone Street, South Brisbane

Drilling Information				Material Description						Test Samples				
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results	Test Depth	Tests	Sample/Result
100mm Auger			9.0			CH	Silty Clay : High plasticity clay, with some black silty clay layers, water coming in from sand layers above		M	VSI-H		8.9 }	- U50	PP=320kPa
			10.0											
				</										

Comments:			12.00m: BOREHOLE TERMINATED			Authorised by:	
						Date:	
Water	Weathering	Consistency	Density	Rock Strength		Tests & Results	
 Water level on date shown	RS Residual soil	VS Very soft S Soft	VL Very loose L Loose	ELS Extremely low	U50 Undisturbed 50mm diam tube. D Disturbed sample.		
 Water inflow	XW Extremely weathered	F Firm St Stiff	MD Medium dense	VLS Very low LS Low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.		
 Water outflow	DW Distinctly weathered	VSt Very stiff H Hard	D Dense VD Very dense	MS Medium HS High	PP Hand penetrometer estimate of unconfined compressive strength, kPa. S Vane shear value kPa		
	SW Slightly weathered	Moisture D Dry M Moist W Wet		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.		
	FR Fresh			EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes		

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Engineering Log - Borehole

Borehole No.: BH5

Page: 1 of 3

Job Number: 205E/175

Client: Aria Properties Group

Project: Geotechnical Site Investigation

Location: 4 Edmondstone Street, South Brisbane

Easting:

Drilling Rig: Jacro 105

Northing:

Driller: R. Battison

RL:

Logged By: G. Rose

Total Depth: 12.00

Date: 29/07/2005

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
			0.2				Concrete: Reinforced concrete slab				Paveme
			0.25	FIL		FIL	Silty Sand (SM): Fine to coarse grained bedding sand, orange - brown, moist.	M	L		Paveme
								M	St		Drilled
											7
			0.5			FIL	Gravelly Clay (CI): Medium plasticity clay, with fine to medium grained gravel, yellow brown and red	M	VSt-H		5
							Sandy Clay (CH): High plasticity clay with fine to medium grained sand, brown mottled grey				6
											12
			1.0								7
											2
											3
			1	Natural		CI	Sandy Clay: Medium plasticity clay, fine grained sand, grey streaked orange brown	M	H		5
											6
											7
											12
											20
			2.0								
			2.1			CH	Sandy Clay: As above except high plasticity clay and fine to medium grained sand, orange brown	M	H		
			2.6			CH	Sandy Clay: As above except medium plasticity and some fine sand layers	M	H		
			3.0								
			3.6			CH	Silty Clay: High plasticity clay with some fine to medium grained gravel (sandstone)	M	VSt		
			4.0								

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
▼ Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
► Water inflow	XW Extremely weathered	S Soft	L Loose	low	D Disturbed sample.
► Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	LS Low	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	VSt Very stiff	VD Very dense	MS Medium	S Vane shear value kPa
		H Hard		HS High	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		Moisture		VHS Very high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes
		D Dry M Moist W Wet		EHS Extremely high	

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Engineering Log - Borehole

Borehole No.: BH5

Page: 2 of 3

Job Number: 205E/175

Easting:

Drilling Rig: Jacro 105

Client: Aria Properties Group

Northing:

Driller: R. Battison

Project: Geotechnical Site Investigation

RL:

Logged By: G. Rose

Location: 4 Edmondstone Street, South Brisbane

Total Depth: 12.00

Date: 29/07/2005

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
											Test Depth
											Tests
											Sample/Result
100mm Auger	SWL 08/03/05		4.3			CH	Silty Clay : High plasticity clay with some fine to medium grained gravel (sandstone)		M	VSt	
			5.0			CH	Sandy Clay: High plasticity clay with water coming in through sand layers, grey		M	St	
			5.2			CH	Sandy Clay: As above except moist to wet		M-W	St	
			5.5			CH	Silty Clay : High plasticity clay with some fine grained sand layers, grey (SWL at 5.7m)		M	VSt	
			7.2			CH	Silty Clay : As above except very stiff to hard		M	VSt-H	
			8.0								

Comments:

Authorised by:

Date:

Water	Weathering	Consistency	Density	Rock Strength	Tests & Results
Water level on date shown	RS Residual soil	VS Very soft	VL Very loose	ELS Extremely low	U50 Undisturbed 50mm diam tube.
Water inflow	XW Extremely weathered	S Soft	L Loose	LS Low	D Disturbed sample.
Water outflow	DW Distinctly weathered	F Firm	MD Medium dense	VLS Very low	SPT Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
	SW Slightly weathered	St Stiff	D Dense	MS Medium	PP Hand penetrometer estimate of unconfined compressive strength, kPa.
	FR Fresh	VSt Very stiff	VD Very dense	HS High	S Vane shear value kPa
		H Hard		VHS Very high	DC Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		Moisture		EHS Extremely high	From AS1289-1993 Methods of Testing Soils for Engineering Purposes
		D Dry M Moist W Wet			

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Engineering Log - Borehole

Borehole No.: **BH5**

Page: 3 of 3

Job Number: 205E/175

Client: Aria Properties Group

Project: Geotechnical Site Investigation

Location: 4 Edmondstone Street, South Brisbane

Easting:
Northing:
RL:
Total Depth: 12.00
Drilling Rig: Jacro 105
Driller: R. Battison
Logged By: G. Rose
Date: 29/07/2005

Drilling Information				Material Description				Test Samples			
Drill Method	Water	RL	Hole Depth (m)	Soil Origin	Graphic Log	Classification Code	Description	Weathering	Moisture	Consistency - Density - Strength	DC Test Results
			8.3			CH	Silty Clay : As above except very stiff to hard		M	VSt-H	
						CH	Silty Clay : As above except hard		M	H	
			9.0								
			10.0								
			10.5			CH	Silty Clay : As above except with some black nodules of silty clay		M	H	
			11.0								
			11.6			CH	Silty Clay : High plasticity clay with some black (organic?) nodules of silt, grey with yellow streaking		M	St-VSt	
			12.0								

Comments:				12.00m: BOREHOLE TERMINATED				Authorised by:			
								Date:			
Water		Weathering		Consistency		Density		Rock Strength		Tests & Results	
	Water level on date shown	RS	Residual soil	VS	Very soft	VL	Very loose	ELS	Extremely low	U50	Undisturbed 50mm diam tube.
				S	Soft	L	Loose		low	D	Disturbed sample.
	Water inflow	XW	Extremely weathered	F	Firm	MD	Medium dense	VLS	Very low	SPT	Standard Penetration Test, N = number of blows to drive 50mm sampler 300mm with a 63.6kg hammer falling 762mm.
				St	Stiff			LS	Low		
	Water outflow	DW	Distinctly weathered	VSt	Very stiff	D	Dense	MS	Medium	PP	Hand penetrometer estimate of unconfined compressive strength, kPa.
				H	Hard	VD	Very dense	HS	High	S	Vane shear value kPa
		SW	Slightly weathered					VHS	Very high	DC	Dynamic Cone test, 9.09kg hammer, fall 508mm, driving 20mm, 30 deg taper cone fitted to rods of smaller section.
		FR	Fresh					EHS	Extremely high		From AS1289-1993 Methods of Testing Soils for Engineering Purposes
				Moisture							
				D Dry	M Moist	W Wet					

APPENDIX F

LABORATORY CERTIFICATES

RTI DL RELEASE EHP





CERTIFICATE OF ANALYSIS

Client :	WASTE SOLUTIONS AUSTRALIA P/L	Laboratory :	ALS Environmental Perth	Page :	1 of 6
Contact :	MS AMANDA GRAVINA	Contact :	Shaun Crabb	Work order :	EP0500795
Address :	P O BOX 514 ASHGROVE QLD AUSTRALIA 4060	Address :	10 Hod Way Malaga WA Australia 6090		
Project :	- Not provided -	Quote number :	BN/183/05	Date received :	12 Aug 2005
Order number :	- Not provided -			Date issued :	18 Aug 2005
C-O-C number :	115862,115863				
Site :	Edmonstone St				
E-mail :	wsa@wastesolutions.biz	E-mail :	Shaun.Crabb@alsenviro.com	No. of samples	
Telephone :	07 3366 5778	Telephone :	61-8-9209-7655	Received :	22
Facsimile :	07 3366 7302	Facsimile :	61-8-9209-7600	Analysed :	10

This final report for the ALSE work order reference EP0500795 supersedes any previous reports with this reference.

Results apply to the samples as submitted. All pages of this report have been checked and approved for release.

This report contains the following information:

- Analytical results for samples submitted
- Surrogate control limits

Work order specific comments

All samples labelled as per the COC, depth discrepancies are listed below.

Sample 5 jar labelled BH3 - 0.9.

Sample 8 jar labelled BH5 - 1.0.

Sample 17 jar labelled BH3 - 0.6.

ALSE - Excellence in Analytical Testing



NATA Accredited Laboratory - 825

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

Accredited for compliance with ISO/IEC 17025.

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory

Shaun Crabb
Steven McGrath
Steven McGrath

Department

Perth Inorganics - NATA 15847 (Perth)
Perth Organics - NATA 15847 (Perth)
Perth Inorganics - NATA 15847 (Perth)

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 2 of 6
Issue Date : 18 Aug 2005

When moisture determination has been performed, results are reported on a dry weight basis. When a reported 'less than' result is higher than the LOR, this may be due to primary sample extracts/digestion dilution and/or insufficient sample amount for analysis. Surrogate Recovery Limits are static and based on USEPA SW846 or ALS-QW/EN38 (in the absence of specified USEPA limits).

Abbreviations: **CAS number** = Chemical Abstract Services number, **LOR** = Limit of Reporting. # Indicates a raised LOR, * Indicates failed Surrogate Recoveries.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes.

Client Sample ID :				BH2 0.2	BH5 0.3	BH3 0.6	BH2 0.9	BH3 0.9-1.0
Sample Matrix Type / Description :				SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL
Sample Date / Time :				29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00
Laboratory Sample ID :				EP0500795-001	EP0500795-002	EP0500795-003	EP0500795-004	EP0500795-005
Analyte	CAS number	LOR	Units					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	9.5	9.8	6.5	12.7	8.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	5	19	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	18	151	11	25	14
Copper	7440-50-8	5	mg/kg	18	294	<5	6	<5
Lead	7439-92-1	5	mg/kg	1010	<5	10	37	12
Nickel	7440-02-0	2	mg/kg	4	271	3	3	2
Zinc	7440-66-6	5	mg/kg	507	711	10	28	8
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Indeno(1,2,3,cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	----	----
C10 - C14 Fraction		50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction		100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction		100	mg/kg	<100	<100	<100	----	----



ALS Environmental

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Issue Date : 18 Aug 2005

Analytical Results

Client Sample ID :

Sample Matrix Type / Description :

Sample Date / Time :

Laboratory Sample ID :

Analyte	CAS number	LOR	Units	BH2 0.2 SOIL / SOIL 29 Jul 2005 15:00 EP0500795-001	BH5 0.3 SOIL / SOIL 29 Jul 2005 15:00 EP0500795-002	BH3 0.6 SOIL / SOIL 29 Jul 2005 15:00 EP0500795-003	BH2 0.9 SOIL / SOIL 29 Jul 2005 15:00 EP0500795-004	BH3 0.9-1.0 SOIL / SOIL 29 Jul 2005 15:00 EP0500795-005
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
2-Fluorophenol	367-12-4	0.1	%	94.0	101	102	----	----
Phenol-d6	13127-88-3	0.1	%	84.6	79.0	87.0	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	79.5	84.8	86.4	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	71.2	70.1	78.0	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.2	91.6	91.1	----	----
Anthracene-d10	1719-06-8	0.1	%	108	114	118	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	104	97.0	115	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	87.1	87.5	85.9	----	----
Toluene-D8	2037-26-5	0.1	%	88.4	87.5	84.9	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	87.6	85.6	84.0	----	----



ALS Environmental

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Issue Date : 18 Aug 2005

Analytical Results

Client Sample ID :				BH1 0.4	BH4 1.0	BH5 1.1	BH4 0.5	Dup 2
Sample Matrix Type / Description :				SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL
Sample Date / Time :				29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00
Laboratory Sample ID :				EP0500795-006	EP0500795-007	EP0500795-008	EP0500795-009	EP0500795-010
Analyte	CAS number	LOR	Units					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	19.4	11.1	12.7	10.6	8.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	10	<5	8	<5
Cadmium	7440-43-9	1	mg/kg	<1	1	<1	1	<1
Chromium	7440-47-3	2	mg/kg	12	116	27	97	11
Copper	7440-50-8	5	mg/kg	10	120	188	109	<5
Lead	7439-92-1	5	mg/kg	50	10	79	18	8
Nickel	7440-02-0	2	mg/kg	4	182	6	193	3
Zinc	7440-66-6	5	mg/kg	308	184	123	211	9
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Indeno(1,2,3,cd)pyrene	193-39-5	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	---	---	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	---	---	<2	<2
C10 - C14 Fraction		50	mg/kg	<50	---	---	<50	<50
C15 - C28 Fraction		100	mg/kg	<100	---	---	<100	<100
C29 - C36 Fraction		100	mg/kg	<100	---	---	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	---	---	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	---	---	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	---	---	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	---	---	<0.2	<0.2



ALS Environmental

Client : WASTE SOLUTIONS AUSTRALIA P/L

Work Order : EP0500795

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Project : - Not provided -

ALS Quote Reference : BN/183/05

Issue Date : 18 Aug 2005

Analytical Results

Client Sample ID :				BH1 0.4	BH4 1.0	BH5 1.1	BH4 0.5	Dup 2
Sample Matrix Type / Description :				SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL	SOIL / SOIL
Sample Date / Time :				29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00	29 Jul 2005 15:00
Laboratory Sample ID :				EP0500795-006	EP0500795-007	EP0500795-008	EP0500795-009	EP0500795-010
Analyte	CAS number	LOR	Units					
EP080: BTEX								
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	----	----	<0.2	<0.2
EP075(SIM)S: Phenolic Compound Surrogates								
2-Fluorophenol	367-12-4	0.1	%	103	----	----	95.0	92.6
Phenol-d6	13127-88-3	0.1	%	82.8	----	----	81.1	78.9
2-Chlorophenol-D4	93951-73-6	0.1	%	89.3	----	----	81.4	78.3
2,4,6-Tribromophenol	118-79-6	0.1	%	78.2	----	----	71.0	70.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.4	----	----	88.9	85.5
Anthracene-d10	1719-06-8	0.1	%	101	----	----	119	107
4-Terphenyl-d14	1718-51-0	0.1	%	100	----	----	107	96.5
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	82.1	----	----	84.2	86.0
Toluene-D8	2037-26-5	0.1	%	84.2	----	----	83.2	82.2
4-Bromofluorobenzene	460-00-4	0.1	%	81.5	----	----	79.5	80.7

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
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Surrogate Control Limits

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: SOIL

Method name	Analyte name	Surrogate Control Limits	
		Lower Limit	Upper Limit
EP075(SIM): PAH/Phenols (SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	2-Fluorophenol	62.7	125
	Phenol-d6	65.5	117
	2-Chlorophenol-D4	60.3	109
	2,4,6-Tribromophenol	50.6	111
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	66.4	123
	Anthracene-d10	62.7	124
	4-Terphenyl-d14	63.7	124
EP080: TPH Volatiles/BTEX			
EP080S: TPH(V)/BTEX Surrogates	1,2-Dichloroethane-D4	79.2	121
	Toluene-D8	78.3	120
	4-Bromofluorobenzene	79.7	122


QUALITY CONTROL REPORT

Client :	WASTE SOLUTIONS AUSTRALIA P/L	Laboratory :	ALS Environmental Perth	Page :	1 of 7
Contact :	MS AMANDA GRAVINA	Contact :	Shaun Crabb	Work order :	EP0500795
Address :	P O BOX 514 ASHGROVE QLD AUSTRALIA 4060	Address :	10 Hod Way Malaga WA Australia 6090	Amendment No. :	
Project :	- Not provided -	Quote number :	BN/183/05	Date received :	12 Aug 2005
Order number :	- Not provided -			Date issued :	18 Aug 2005
C-O-C number :	115862,115863			No. of samples	
Site :	Edmonstone St			Received :	22
E-mail :	wsa@wastesolutions.biz	E-mail :	Shaun.Crabb@alsenviro.com	Analysed :	10
Telephone :	07 3366 5778	Telephone :	61-8-9209-7655		
Facsimile :	07 3366 7302	Facsimile :	61-8-9209-7600		

This final report for the ALSE work order reference EP0500795 supersedes any previous reports with this reference. Results apply to the samples as submitted. All pages of this report have been checked and approved for release.

This report contains the following information:

- Laboratory Duplicates (DUP); Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Samples (LCS); Recovery and Acceptance Limits
- Matrix Spikes (MS); Recovery and Acceptance Limits

Work order specific comments

All samples labelled as per the COC, depth discrepancies are listed below.

Sample 5 jar labelled BH3 - 0.9.

Sample 8 jar labelled BH5 - 1.0.

Sample 17 jar labelled BH3 - 0.6.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

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

Accredited for compliance with ISO/IEC 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory

Shaun Crabb
Steven McGrath
Steven McGrath

Department

Perth Inorganics - NATA 15847 (Perth)
Perth Organics - NATA 15847 (Perth)
Perth Inorganics - NATA 15847 (Perth)

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Quality Control Report - Laboratory Duplicates (DUP)

The quality control term **Laboratory Duplicate** refers to an intralaboratory split sample randomly selected from the sample batch. Laboratory duplicates provide information on method precision and sample heterogeneity.

- Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. Abbreviations: **LOR** = Limit of Reporting, **RPD** = Relative Percent Difference.

* Indicates failed QC. The permitted ranges for the RPD of Laboratory Duplicates (relative percent deviation) are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting:- Result < 10 times LOR, no limit - Result between 10 and 20 times LOR, 0% - 50% - Result > 20 times LOR, 0% - 20%

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EA055: Moisture Content						
EA055: Moisture Content - (QC Lot: 102581)						
EP0500791-001	Anonymous	Moisture Content (dried @ 103°C)	1.0 %	17.1	16.8	1.3
EP0500791-010	Anonymous	Moisture Content (dried @ 103°C)	1.0 %	15.6	15.5	0.0
EA055: Moisture Content - (QC Lot: 102582)						
EP0500795-003	BH3 - 0.6	Moisture Content (dried @ 103°C)	1.0 %	6.5	6.8	3.6
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 102580)						
EP0500795-001	BH2 - 0.2	Arsenic	5 mg/kg	<5	5	0.0
		Cadmium	1 mg/kg	<1	1	0.0
		Chromium	2 mg/kg	16	18	8.6
		Copper	5 mg/kg	16	19	17.7
		Lead	5 mg/kg	916	1100	18.0
		Nickel	2 mg/kg	4	4	0.0
		Zinc	5 mg/kg	458	528	14.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 102568)						
EP0500795-001	BH2 - 0.2	Naphthalene	0.5 mg/kg	<0.5	<0.5	0.0
		Acenaphthylene	0.5 mg/kg	<0.5	<0.5	0.0
		Acenaphthene	0.5 mg/kg	<0.5	<0.5	0.0
		Fluorene	0.5 mg/kg	<0.5	<0.5	0.0
		Phenanthrene	0.5 mg/kg	<0.5	<0.5	0.0
		Anthracene	0.5 mg/kg	<0.5	<0.5	0.0
		Fluoranthene	0.5 mg/kg	<0.5	<0.5	0.0
		Pyrene	0.5 mg/kg	<0.5	<0.5	0.0
		Benz(a)anthracene	0.5 mg/kg	<0.5	<0.5	0.0
		Chrysene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(b)fluoranthene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(k)fluoranthene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(a)pyrene	0.5 mg/kg	<0.5	<0.5	0.0

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 102568) - continued				mg/kg	mg/kg	%
EP0500795-001	BH2 - 0.2	Indeno(1,2,3,cd)pyrene	0.5 mg/kg	<0.5	<0.5	0.0
		Dibenz(a,h)anthracene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(g,h,i)perylene	0.5 mg/kg	<0.5	<0.5	0.0
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102394)				mg/kg	mg/kg	%
EP0500795-001	BH2 - 0.2	C6 - C9 Fraction	2 mg/kg	<2	<2	0.0
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102567)				mg/kg	mg/kg	%
EP0500795-001	BH2 - 0.2	C10 - C14 Fraction	50 mg/kg	<50	<50	0.0
		C15 - C28 Fraction	100 mg/kg	<100	<100	0.0
		C29 - C36 Fraction	100 mg/kg	<100	<100	0.0
EP080: BTEX						
EP080: BTEX - (QC Lot: 102394)				mg/kg	mg/kg	%
EP0500795-001	BH2 - 0.2	Benzene	0.2 mg/kg	<0.2	<0.2	0.0
		Toluene	0.2 mg/kg	<0.2	<0.2	0.0
		Ethylbenzene	0.2 mg/kg	<0.2	<0.2	0.0
		meta- & para-Xylene	0.2 mg/kg	<0.2	<0.2	0.0
		ortho-Xylene	0.2 mg/kg	<0.2	<0.2	0.0

RTI DL RELEASE - EHP

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Quality Control Report - Method Blank (MB) and Laboratory Control Samples (LCS)

The quality control term **Method / Laboratory Blank** refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC type is to monitor potential laboratory contamination. The quality control term **Laboratory Control Sample (LCS)** refers to a known, interference free matrix spiked with target analytes or certified reference material. The purpose of this QC type is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of actual laboratory data. Abbreviations: LOR = Limit of reporting.

Matrix Type: SOIL

Method Blank (MB) and Laboratory Control Samples (LCS) Report

		Method blank result	Actual Results		Recovery Limits	
Analyte name	LOR		Spike concentration	Spike Recovery LCS	Dynamic Recovery Limits	
					Low	High
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 102580)		mg/kg	mg/kg	%	%	%
Arsenic	5 mg/kg	---	13.75	108	70	130
	5 mg/kg	<5	---	---	---	---
Cadmium	1 mg/kg	---	2.82	106	70	130
	1 mg/kg	<1	---	---	---	---
Chromium	2 mg/kg	---	61.6	106	70	130
	2 mg/kg	<2	---	---	---	---
Copper	5 mg/kg	---	54.7	106	70	130
	5 mg/kg	<5	---	---	---	---
Lead	5 mg/kg	---	55.5	103	70	130
	5 mg/kg	<5	---	---	---	---
Nickel	2 mg/kg	---	55.1	107	70	130
	2 mg/kg	<2	---	---	---	---
Zinc	5 mg/kg	---	105	103	70	130
	5 mg/kg	<5	---	---	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 102568)		mg/kg	mg/kg	%	%	%
Acenaphthene	0.5 mg/kg	---	10	86.7	62.0	116
	0.5 mg/kg	<0.5	---	---	---	---
Acenaphthylene	0.5 mg/kg	---	10	90.4	61.5	120
	0.5 mg/kg	<0.5	---	---	---	---
Anthracene	0.5 mg/kg	---	10	92.7	64.6	128
	0.5 mg/kg	<0.5	---	---	---	---
Benz(a)anthracene	0.5 mg/kg	---	10	83.4	67.0	117
	0.5 mg/kg	<0.5	---	---	---	---
Benzo(a)pyrene	0.5 mg/kg	---	10	84.8	56.0	112
	0.5 mg/kg	<0.5	---	---	---	---

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

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Matrix Type: SOIL

Method Blank (MB) and Laboratory Control Samples (LCS) Report

		Method blank result	Actual Results		Recovery Limits	
Analyte name	LOR		Spike concentration	Spike Recovery	Dynamic Recovery Limits	
					LCS	Low
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 102568) - continued		mg/kg	mg/kg	%	%	%
Benzo(b)fluoranthene	0.5 mg/kg	----	10	104	51.2	126
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(g,h,i)perylene	0.5 mg/kg	----	10	72.2	43.7	109
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	0.5 mg/kg	----	10	91.2	60.1	128
	0.5 mg/kg	<0.5	----	----	----	----
Chrysene	0.5 mg/kg	----	10	93.2	67.7	126
	0.5 mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	0.5 mg/kg	----	10	70.9	48.2	98.7
	0.5 mg/kg	<0.5	----	----	----	----
Fluoranthene	0.5 mg/kg	----	10	86.1	60.7	120
	0.5 mg/kg	<0.5	----	----	----	----
Fluorene	0.5 mg/kg	----	10	87.2	64.4	115
	0.5 mg/kg	<0.5	----	----	----	----
Indeno(1,2,3,cd)pyrene	0.5 mg/kg	----	10	70.0	45.9	101
	0.5 mg/kg	<0.5	----	----	----	----
Naphthalene	0.5 mg/kg	----	10	91.3	62.7	118
	0.5 mg/kg	<0.5	----	----	----	----
Phenanthrene	0.5 mg/kg	----	10	80.4	66.3	118
	0.5 mg/kg	<0.5	----	----	----	----
Pyrene	0.5 mg/kg	----	10	89.2	62.1	122
	0.5 mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102394)		mg/kg	mg/kg	%	%	%
C6 - C9 Fraction	2 mg/kg	----	32	104	77.6	120
	2 mg/kg	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102567)		mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	25 mg/kg	----	756	96.0	69.3	120
	50 mg/kg	<50	----	----	----	----

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

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Matrix Type: SOIL

Method Blank (MB) and Laboratory Control Samples (LCS) Report

		Method blank result	Actual Results		Recovery Limits	
Analyte name	LOR		Spike concentration	Spike Recovery	Dynamic Recovery Limits	
					LCS	Low
EP080/071: Total Petroleum Hydrocarbons - continued						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102567) - continued		mg/kg	mg/kg	%	%	%
C15 - C28 Fraction	50 mg/kg	----	1158	103	77.0	120
	100 mg/kg	<100	----	----	----	----
C29 - C36 Fraction	50 mg/kg	----	162	91.1	67.4	116
	100 mg/kg	<100	----	----	----	----
EP080: BTEX						
EP080: BTEX - (QC Lot: 102394)		mg/kg	mg/kg	%	%	%
Benzene	0.2 mg/kg	----	2	98.1	79.7	122
	0.2 mg/kg	<0.2	----	----	----	----
Ethylbenzene	0.2 mg/kg	----	2	97.2	79.7	122
	0.2 mg/kg	<0.2	----	----	----	----
meta- & para-Xylene	0.2 mg/kg	----	4	98.6	79.6	122
	0.2 mg/kg	<0.2	----	----	----	----
ortho-Xylene	0.2 mg/kg	----	2	98.4	80.0	122
	0.2 mg/kg	<0.2	----	----	----	----
Toluene	0.2 mg/kg	----	2	97.0	78.3	120
	0.2 mg/kg	<0.2	----	----	----	----

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 7 of 7
Issue Date : 18 Aug 2005

Quality Control Report - Matrix Spikes (MS)

The quality control term **Matrix Spike (MS)** refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC type is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQO's). 'Ideal' recovery ranges stated may be waived in the event of sample matrix interferences. - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. Abbreviations: **LOR** = Limit of Reporting, **RPD** = Relative Percent Difference.

* Indicates failed QC

Matrix Type: SOIL

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
Analyte name	Laboratory Sample ID	Client Sample ID	LOR	Spike Concentration	Sample Result	Spike Recovery MS	Static Limits	
							Low	High
EG005T: Total Metals by ICP-AES								
EG005T: Total Metals by ICP-AES - (QC Lot: 102580)					mg/kg	mg/kg	%	%
Arsenic	EP0500795-002	BH5 - 0.3	5 mg/kg	50	19	85.4	70	130
Cadmium			1 mg/kg	50	2	99.1	70	130
Chromium			2 mg/kg	50	151	72.4	70	130
Copper			5 mg/kg	50	294	* Not Determined	70	130
Lead			5 mg/kg	50	<5	102	70	130
Nickel			2 mg/kg	50	271	* Not Determined	70	130
Zinc			5 mg/kg	50	711	* Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 102568)					mg/kg	mg/kg	%	%
Acenaphthene	EP0500795-002	BH5 - 0.3	0.5 mg/kg	10	<0.5	79.5	62.0	116
Pyrene			0.5 mg/kg	10	<0.5	96.4	62.1	122
EP080/071: Total Petroleum Hydrocarbons								
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102394)					mg/kg	mg/kg	%	%
C6 - C9 Fraction	EP0500795-003	BH3 - 0.6	2 mg/kg	28	<2	81.6	77.6	120
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 102567)					mg/kg	mg/kg	%	%
C10 - C14 Fraction	EP0500794-002	Anonymous	25 mg/kg	756	230	104	69.3	120
C15 - C28 Fraction			50 mg/kg	1158	1650	123	77.0	120
C29 - C36 Fraction			50 mg/kg	162	130	94.0	67.4	116
EP080: BTEX								
EP080: BTEX - (QC Lot: 102394)					mg/kg	mg/kg	%	%
Benzene	EP0500795-003	BH3 - 0.6	0.2 mg/kg	2	<0.2	81.4	79.7	122
Toluene			0.2 mg/kg	2	<0.2	82.6	78.3	120


INTERPRETIVE QUALITY CONTROL REPORT

Client :	WASTE SOLUTIONS AUSTRALIA P/L	Laboratory :	ALS Environmental Perth	Page :	1 of 6
Contact :	MS AMANDA GRAVINA	Contact :	Shaun Crabb	Work order :	EP0500795
Address :	P O BOX 514 ASHGROVE QLD AUSTRALIA 4060	Address :	10 Hod Way Malaga WA Australia 6090	Amendment No. :	
Project :	- Not provided -	Quote number :	BN/183/05	Date received :	12 Aug 2005
Order number :	- Not provided -			Date issued :	18 Aug 2005
C-O-C number :	115862,115863			No. of samples	
Site :	Edmonstone St			Received :	22
E-mail :	wsa@wastesolutions.biz	E-mail :	Shaun.Crabb@alsenviro.com	Analysed :	10
Telephone :	07 3366 5778	Telephone :	61-8-9209-7655		
Facsimile :	07 3366 7302	Facsimile :	61-8-9209-7600		

This Interpretive Quality Control Report was issued on 18 Aug 2005 for the ALS work order reference EP0500795 and supersedes any previous reports with this reference.

This report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Type Frequency Compliance
- Summary of all Quality Control Outliers
- Brief Method Summaries

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 2 of 6
Issue Date : 18 Aug 2005

Interpretive Quality Control Report - Analysis Holding Time

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the sample aliquot was taken. Elapsed time to analysis represents time from sampling where no extraction / digestion is involved or time from extraction / digestion where this is present. For composite samples, sampling date/time is taken as that of the oldest sample contributing to that composite. Sample date/time for laboratory produced leaches are taken from the completion date/time of the leaching process. Outliers for holding time are based on USEPA SW846, APHA, AS and NEPM (1999). Failed outliers, refer to the 'Summary of Outliers'.

Matrix Type: SOIL

Analysis Holding Time and Preservation

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis holding time and Preservation		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved BH2 - 0.2, BH3 - 0.6, BH3 - 0.9-1.0, BH4 - 1.0, BH4 - 0.5, BH5 - 0.3, BH2 - 0.9, BH1 - 0.4, BH5 - 1.1, Dup 2	29 Jul 2005	15 Aug 2005	25 Jan 2006	Pass	15 Aug 2005	25 Jan 2006	Pass
EP071: TPH - Semivolatile Fraction							
Soil Glass Jar - Unpreserved BH2 - 0.2, BH3 - 0.6, BH4 - 0.5, BH5 - 0.3, BH1 - 0.4, Dup 2	29 Jul 2005	15 Aug 2005	12 Aug 2005	Fail by 3 days	15 Aug 2005	24 Sep 2005	Pass
EP075(SIM): PAH/Phenols (SIM)							
Soil Glass Jar - Unpreserved BH2 - 0.2, BH3 - 0.6, BH4 - 0.5, BH5 - 0.3, BH1 - 0.4, Dup 2	29 Jul 2005	15 Aug 2005	12 Aug 2005	Fail by 3 days	15 Aug 2005	24 Sep 2005	Pass
EP080: TPH Volatiles/BTEX							
Soil Glass Jar - Unpreserved BH2 - 0.2, BH3 - 0.6, BH4 - 0.5, BH5 - 0.3, BH1 - 0.4, Dup 2	29 Jul 2005	13 Aug 2005	12 Aug 2005	Fail by 1 day	15 Aug 2005	12 Aug 2005	Fail by 3 days

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 3 of 6
Issue Date : 18 Aug 2005

Interpretive Quality Control Report - Frequency of Quality Control Samples

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which this work order was processed. Actual rate should be greater than or equal to the expected rate.

Matrix Type: SOIL

Frequency of Quality Control Samples

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Method		QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
EA055-103: Moisture Content		3	28	10.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES		1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction		1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)		1	6	16.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX		1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)						
EG005T: Total Metals by ICP-AES		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)		1	6	16.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)						
EG005T: Total Metals by ICP-AES		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)		1	6	16.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX		1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)						
EG005T: Total Metals by ICP-AES		1	10	10.0	5.0	ALS QCS3 requirement
EP071: TPH - Semivolatile Fraction		1	10	10.0	5.0	ALS QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)		1	6	16.7	5.0	ALS QCS3 requirement
EP080: TPH Volatiles/BTEX		1	10	10.0	5.0	ALS QCS3 requirement

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 4 of 6
Issue Date : 18 Aug 2005



Interpretive Quality Control Report - Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged on the 'Quality Control Report'. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot.

Non-surrogates

Matrix Type: SOIL

Summary of Outliers - Quality Control Samples

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Matrix Spikes (MS)							
EG005T: Total Metals by ICP-AES	SOIL	EP0500795-002	BH5 - 0.3	Copper	ND	---	MS recovery not determined, background level greater than or equal to 4x spike level.
				Nickel	ND	---	MS recovery not determined, background level greater than or equal to 4x spike level.
				Zinc	ND	---	MS recovery not determined, background level greater than or equal to 4x spike level.
EP080/071: Total Petroleum Hydrocarbons	SOIL	EP0500794-002	Anonymous	C16 - C28 Fraction	123 %	77.0-120 %	Recovery greater than upper data quality objective

- For all matrices, no RPD recovery outliers occur for the duplicate analysis.
- For all matrices, no method blank result outliers occur.
- For all matrices, no laboratory spike recoveries breaches occur.

Surrogates

Surrogates							
EP080S: TPH(V)/BTEX Surrogates	SOIL	EP0500795-009	BH4 - 0.5	4-Bromofluorobenzene	79.5 %	79.7-122 %	Recovery less than lower control limit

- For all matrices, no surrogate recovery outliers occur.

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 5 of 6
Issue Date : 18 Aug 2005



Outliers : Analysis Holding Time

The following report highlights outliers within this 'Interpretive Quality Control Report - Analysis Holding Time'.

Matrix Type: SOIL

Method		Date Sampled	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP071: TPH - Semivolatile Fraction								
Soil Glass Jar - Unpreserved		29 Jul 2005	15 Aug 2005	12 Aug 2005	Fail by 3 days	15 Aug 2005	24 Sep 2005	Pass
BH2 - 0.2,								
BH3 - 0.6,								
BH4 - 0.5,								
BH5 - 0.3,								
BH1 - 0.4,								
Dup 2								

Matrix Type: SOIL

Method		Date Sampled	Summary of Outliers - Analysis Holding times and Preservation					
Container / Client Sample ID(s)			Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP075(SIM): PAH/Phenols (SIM)								
Soil Glass Jar - Unpreserved								
BH2 - 0.2,	BH5 - 0.3,	29 Jul 2005	15 Aug 2005	12 Aug 2005	Fail by 3 days	15 Aug 2005	24 Sep 2005	Pass
BH3 - 0.6,	BH1 - 0.4,							
BH4 - 0.5,	Dup 2							
Matrix Tissue Soil								

Matrix Type: SOIL

Method		Date Sampled	Summary of Outliers - Analysis Holding times and Preservation					
Container / Client Sample ID(s)			Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP080: TPH Volatiles/BTEX								
Soil Glass Jar - Unpreserved								
BH2 - 0.2,	BH5 - 0.3,	29 Jul 2005	13 Aug 2005	12 Aug 2005	Fail by 1 day	15 Aug 2005	12 Aug 2005	Fail by 3 days
BH3 - 0.6,	BH1 - 0.4,							
BH4 - 0.5,	Dup 2							

Outliers : Frequency of Quality Control Samples

The following report highlights outliers within this 'Interpretive Quality Control Report - Frequency of Quality Control Samples'.

- No frequency outliers occur.

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : BN/183/05

Page Number : 6 of 6
Issue Date : 18 Aug 2005



Method Reference Summary

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: SOIL

Method Reference Summary

Preparation Methods

EN69 : Hot Block Digest for metals in soils sediments and sludges - USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)

ORG16 : Methanolic Extraction of Soils for Purge and Trap - (USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

ORG17B : Tumbler Extraction of Solids (Option B - Non-concentrating) - In-house, Mechanical agitation (tumbler) 10g of sample, Na₂SO₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Analytical Methods

EA055-103 : Moisture Content - A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)

EG005T : Total Metals by ICP-AES - (APHA 20th ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)

EP071 : TPH - Semivolatile Fraction - (USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

EP075(SIM) : PAH/Phenols (SIM) - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)

EP080 : TPH Volatiles/BTEX - (USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)



ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive report

Client Details

Client : WASTE SOLUTIONS AUSTRALIA P/L
Contact : MS AMANDA GRAVINA
Address : P O BOX 514 ASHGROVE QLD AUSTRALIA 4060

Project : - Not provided -
Order number : - Not provided -
C-O-C Number : 115862,115863
Site : Edmonstone St
Sampler : Morrison Geotech

E-mail : wsa@wastesolutions.biz
Telephone : 07 3366 5778
Facsimile : 07 3366 7302

Laboratory Details

Laboratory : ALS Environmental Perth
Manager : Shaun Crabb
Address : 10 Hod Way Malaga WA Australia 6090

Quote number : EB20050164
Work order : EP0500795

E-mail : Shaun.Crabb@alsenviro.com
Telephone : 61-8-9209-7655
Facsimile : 61-8-9209-7600

Dates

Date Samples Received : 12 Aug 2005
SRA Issue Date : 12 Aug 2005
Scheduled Reporting Date : **18 Aug 2005**

Delivery Details

Mode of Delivery : Carrier.
No. of coolers/boxes : 1 Large
Security Seal : Intact.

Temperature : Chilled - Ice present
No. of samples - Received : 22
- Analysed : 10

Comments

- Samples received in appropriately pretreated and preserved containers.
- Volatile organic compound analysis may be compromised as sample containers contained headspace.
- All samples labelled as per the COC, depth discrepancies are listed below.
Sample 5 jar labelled BH3 - 0.9
Sample 8 jar labelled BH5 - 1.0.
Sample 17 jar labelled BH3 - 0.6.

- Please direct any queries related to sample condition / numbering / breakages to Shaun Crabb.
- Analytical work for this work order will be conducted at ALSE Perth.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.
- When the sampling time is not supplied on the COC documentation, ALSE defaults the sampling time to that of the COC 'relinquishment' time (if supplied). If this also is not supplied, ALSE defaults the sampling time to the 'time of receipt at Laboratory'.

Disclaimer : This document contains privileged and confidential information intended only for the use of the addressee. If you are not the addressee, you are hereby notified that you must not disseminate, copy or take action of its contents. If you have received this document in error, please notify ALS immediately.

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : EB20050164



Summary of Sample(s) / Container(s) and Requested Analysis

Some items described below may be packages. A package may contain additional analyses, such as moisture and preparation tasks, that form an implicit part of that package.

ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		S-01 7 Metals (incl. Digestion)	S-07 TPH/BTEX/PAH (SIM)								
EP0500795-001	BH2 - 0.2 - 29 Jul 2005	•	•								
EP0500795-002	BH5 - 0.3 - 29 Jul 2005	•	•								
EP0500795-003	BH3 - 0.6 - 29 Jul 2005	•	•								
EP0500795-004	BH2 - 0.9 - 29 Jul 2005	•	•								
EP0500795-005	BH3 - 0.9-1.0 - 29 Jul 2005	•	•								
EP0500795-006	BH1 - 0.4 - 29 Jul 2005	•	•								
EP0500795-007	BH4 - 1.0 - 29 Jul 2005	•	•								
EP0500795-008	BH5 - 1.1 - 29 Jul 2005	•	•								
EP0500795-009	BH4 - 0.5 - 29 Jul 2005	•	•								
EP0500795-010	Dup 2 - 29 Jul 2005	•	•								
EP0500795-011	BH2 - 1.0 - 29 Jul 2005										
EP0500795-012	BH4 - 205E - 29 Jul 2005										
EP0500795-013	BH3 - 0.2 - 29 Jul 2005										
EP0500795-014	BH4 - 29 Jul 2005										
EP0500795-015	BH3 - 1.5 - 29 Jul 2005										
EP0500795-016	BH4 - 0.6 - 29 Jul 2005										
EP0500795-017	BH3 - 0.5 - 29 Jul 2005										
EP0500795-018	BH2 - 1.4 - 29 Jul 2005										
EP0500795-019	BH2 - 0.5 - 29 Jul 2005										
EP0500795-020	BH4 - 0.2 - 29 Jul 2005										
EP0500795-021	BH5 - 0.6 - 29 Jul 2005										
EP0500795-022	Dup 1 - 29 Jul 2005										
Total(s) :		10	6								

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : WASTE SOLUTIONS AUSTRALIA P/L
Project : - Not provided -

Work Order : EP0500795
ALS Quote Reference : EB20050164



Requested Reports

• **MS AMANDA GRAVINA**

- A4 - Certificate of Analysis - NEPM format	Email	wsa@wastesolutions.biz
- A4 - Quality Control Report - NEPM format	Email	wsa@wastesolutions.biz
- A4 - Interpretive Quality Control Report - NEPM format	Email	wsa@wastesolutions.biz
- ENMRG Export Format	Email	wsa@wastesolutions.biz
- Chain of Custody Acknowledgement	Email	wsa@wastesolutions.biz
- A4 - Sample Receipt Notification - Comprehensive format	Email	wsa@wastesolutions.biz
- Invoice	Email	wsa@wastesolutions.biz

Sample Container(s) / Preservation Non-Compliance Log

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

RTI DL RELEASE - EHP

CHAIN OF CUSTODY DOCUMENTATION

115862

1 of 2



CLIENT: WASTE SOLUTIONS AUSTRALIA 07 3366 5778

POSTAL ADDRESS: PO Box 514 Ashgrove Q 4060

SEND REPORT TO: WSA@wastesolutions.au.au SEND INVOICE TO: WSA

DATA NEEDED BY: 4 day turnaround biz REPORT NEEDED BY:

PROJECT ID: EDMONSTONE ST QUOTE NO.:

P.O. NO.:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LAB USE ONLY

COOLER SEAL

Yes ☒ No ☐Broken ☐ Intact ☒

COOLER TEMP: 12.3 deg. C

SAMPLE DATA

CONTAINER DATA

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH
BH2-0.2	①	29/7				
BH5-0.3	②					
BH3-0.6	③					
BH2-1.0	11					
BH2-0.9	④					
BH4-20SE	12					
BH3-0.2	13					
BH4-	14					
BH3-1.5	15					
BH3-0.9-1.0	⑤					
BH1-0.4	⑥					
BH4-0.6	16					
BH4-1.0	⑦					
BH3-0.5	17					
BH3-1.1	⑧					

RELINQUISHED BY

NAME: AMANDA GRADINA
OF: WASTE SOLUTIONSNAME: BRENN MAHOREN
OF: ALSsch4p4(6)
Personal
informationDATE: 10/8/05
TIME: 15:39DATE: 11/8/05
TIME: 8:45NAME: C. ALIOM
OF: ALSNAME: M. Vmci.
OF: ALSE

RECEIVED BY

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME

*Container Type and Preservative Codes: P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; V = Vial;
VC = Hydrochloric Acid Preserved Vial; VS = Sulphuric Acid Preservative Vial; BS = Sulphuric Acid Preserved Glass Bottle; PS = Sulphuric Acid Preserved Plastic Bottle; Z = Zinc Acetate Preserved Bottle;
E = EDTA Preserved Bottle; H = Hydrochloric Acid Preserved Plastic Bottle; F = Formaldehyde Preserved; ST = Sterile Bottle; B = Plastic Bag; O = Other

AUSTRALIAN LABORATORY SERVICES P/L

 WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY

CHAIN OF CUSTODY DOCUMENTATION

115863



CLIENT: <i>W8A</i>					LABORATORY BATCH NO.:				
POSTAL ADDRESS: <i>see above</i>					SAMPLERS:				
SEND REPORT TO:					SEND INVOICE TO:				
DATA NEEDED BY:					REPORT NEEDED BY:				
PROJECT ID:			QUOTE NO.:		REPORT FORMAT: HARD: ☐ FAX: ☐ E-MAIL: ☐				
P.O. NO.:			COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		QC LEVEL: QCS1: ☐ QCS2: ☐ QCS3: ☐ QCS4: ☐				
FOR LAB USE ONLY					ANALYSIS REQUIRED				
COOLER SEAL					<div style="transform: rotate(-45deg); border: 1px solid black; padding: 5px;"> TO BE ADVISED Metals As, Ca, Cu, Pb, Ni, Zn TALLER / PAH </div>				
Yes ☒ No ☐									
Broken ☐ Intact ☒									
COOLER TEMP. <i>12.3</i> deg. C									
SAMPLE DATA					*CONTAINER DATA				
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH	NOTES		
BH2 - 1.4	18	29/7					ON HOLD		
BH2 - 0.5	19						ON HOLD		
BH4 - 0.2	20						ON HOLD		
BH5 - 0.6	21						ON HOLD		
BH4 - 0.5 (9)							ON HOLD		
Dup 1	22						ON HOLD		
Dup 2 (6)							ON HOLD		
RELINQUISHED BY					RECEIVED BY				
NAME: <i>AMANDA GRAVINA</i>					NAME: <i>C. Allom</i>				
OF: <i>W8A</i>					OF: <i>ALS</i>				
DATE:					DATE: <i>10/08/05</i>				
TIME:					TIME: <i>1520</i>				
NAME:					NAME: <i>M. Vinci</i>				
OF:					OF: <i>ALSE</i>				
DATE:					DATE: <i>12/8/05</i>				
TIME:					TIME: <i>8.30am</i>				
METHOD OF SHIPMENT					CONSIGNMENT NOTE NO.				
TRANSPORT CO. NAME									

*Container Type and Preservative Codes: P = Natural Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; V = Vial; VC = Hydrochloric Acid Preserved Vial; VS = Sulphuric Acid Preservative Vial; BS = Sulphuric Acid Preserved Glass Bottle; PS = Sulphuric Acid Preserved Plastic Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; H = Hydrochloric Acid Preserved Plastic Bottle; F = Formaldehyde Preserved; ST = Sterile Bottle; B = Plastic Bag; O = Other

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