coffey geotechnics
SPECIALISTS MANAGING THE EARTH

ENVIRONMENTAL SITE ASSESSMENT

Bovis Lend Lease
Corner of Olympic Boulevard and Herb Elliott Avenue, Sydney Olympic Park, Homebush Bay

GEOTLCOV23048AA-AG
16 January 2007

Coffey Geotechnics Pty Ltd ABN 93 056 929 483
8/12 Mars Road Lane Cove West NSW 2066 Australia

16 January 2007

Bovis Lend Lease
The Bond
30 Hickson Road
Millers Point NSW 2000

Attention: Rod McCoy

Dear Rod,

RE: Environmental Site Assessment - Corner of Olympic Boulevard and Herb Elliott Avenue, Sydney Olympic Park, Homebush Bay

Coffey Geotechnics Pty Ltd (Coffey) is pleased to provide our Environmental Site Assessment for the above site.

We draw your attention to the attached sheet titled 'Statement of Limitations for Environmental Services'. This sheet should be read in conjunction with this report.

We trust that our report meets with your requirements. If you require any further information regarding our report, please do not hesitate to contact of the undersigned.

For and on behalf of Coffey Geotechnics Pty Ltd

JOSHUA LASKY

Senior Environmental Engineer

Distribution:

Original copy held by Coffey Geotechnics Pty Ltd
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2 copies to Bovis Lend Lease

EXECUTIVE SUMMARY

This report presents the findings of an Environmental Site Assessment (ESA) carried out by Coffey Geotechnics Pty Ltd (Coffey) for the proposed commercial building to be developed at the corner of Olympic Boulevard and Herb Elliot Avenue, Homebush Bay (Site 4B).

It is understood that BLL propose to construct a seven storey commercial office building with three basement levels on the L-shaped which covers an area of about 5,000 m^2. A majority of the site is occupied by an asphalt carpark and a small portion of the site along the northern and western site boundaries is landscaped and includes a row of mature trees and public walkway. The site is located within the Sydney Olympic Park precinct.

This report outlines the findings of the environmental component of a joint geotechnical and environmental site assessment undertaken by Coffey.

The objectives of this ESA were to:

- Investigate the site history to identify potentially contaminating activities that may have been performed on the site and adjacent to the site in the past or present;
- Assess the contamination status of fill material and residual soils beneath the site;
- Assess the suitability of the investigation area for the proposed development and recommend further investigation/remediation requirements for the investigation area to be suitable for the proposed use; and
- Assess the waste classification of soils encountered at the site for offsite disposal.

The scope of work includes:

- A site walkover and site history review to identify potential areas of environmental concern (AECs) and chemicals of concern (CoCs);
- Field investigations;
- Laboratory testing; and
- Data assessment and reporting.

The site history review indicated that the site formed a small part of the Homebush abattoir site however it was a tree-lined, cleared block and also part of a road during this time and hence was unlikely to have been used as part of the abattoir operations. The site was redeveloped as a car park in the 1990s as part of the redevelopment for the Sydney 2000 Olympics. Since the redevelopment the site has remained in its current condition. Based on the site history review, the main potential contamination issue on the site was considered to be the importation of fill material.

A field investigation comprising soil sampling from thirteen boreholes across the site was undertaken. Selected samples were subjected to laboratory analysis for chemicals of concern including heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc, mercury), polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), BTEX (benzene, toluene, ethylbenzene, xylene), organochlorine pesticides (OCPs), polychlorinated byphenyls (PCBs) and asbestos. Selected samples were also analysed for TCLP metals and PAHs analysis to assess off-site disposal options for soils encountered at the site.

The field investigations revealed the site was underlain by a layer of asphalt (or topsoil/ garden mulch material in garden bed areas) overlying silty and gravely clay fill from approximately 0.15m to 0.8m across the site. A small amount of black gravel possibly slag and brick fragments were observed in fill in

two boreholes. No other visual or olfactory evidence suggesting soil contamination was observed during the sampling. The fill material was observed to be underlain by residual clays and weathered shale.

Concentrations of contaminants tested for were below the human helath investigation levels (HILs) for commercial / industrial landuse and were below or equal to the inert waste criteria.

The results indicate that the site is likely to be suitable, with respect to contamination, for the proposed commercial / industrial landuse. In addition, the results suggest the majority of fill materials which requires excavation and offsite disposal for construction of the basement levels are likely to classify as inert waste in accordance with NSW EPA (1999) while the majority of underlying natural residual soils and shale would be likely to classify as VENM.

It is important to note that the nature of contaminated site investigation is such that the degree of variability in site conditions cannot be known completely and no sampling and analysis program can eliminate all uncertainty concerning the condition of the site and the waste classification and usability of soils. Consequently, the possible presence of as yet unidentified contaminants cannot be precluded. This is particularly the case when assessing fill material where conditions can change significantly over small distances. Furthermore, while no evidence of asbestos has been identified in the fill, it is common for asbestos containing materials such as fibre cement sheeting fragments to be present within fill material in Sydney, and if present this would result in a higher waste classification (minimum solid waste) as well as extra health and safety requirements. For this reason, it is recommended that an inspection and test program and a contingency plan including be designed and implemented during earthworks providing procedures to be followed in the event that as yet unidentified potentially contaminated material including asbestos is identified.

Given that no groundwater was detected above the shale bedrock in the investigation and the generally low levels of soil contamination identified, it is considered there is a low likelihood that the site would have contributed significant contamination to groundwater. Should groundwater require dewatering during or post development it would need to be tested to assess disposal options.

This report should be read in conjunction with the attached information sheet ‘Statement of Limitations for Environmental Services’.

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1 INTRODUCTION

1.1 General

This report presents the findings of an Environmental Site Assessment (ESA) carried out by Coffey Geotechnics Pty Ltd (Coffey) for the proposed commercial building to be developed at the corner of Olympic Boulevard and Herb Elliot Avenue, Homebush Bay (Site 4B). The location of the site is shown in Figure 1.

The work was commissioned by Rod McCoy of Bovis Lend Lease Pty Ltd (BLL) in an email dated 2 August 2006. The commission was in response to a proposal submitted by Coffey on 4 August 2006 (Ref: GEOTLCOV23048AA-AA).

It is understood that BLL propose to construct a seven storey commercial office building with three basement levels on the L-shaped property which covers an area of about 5,000 m^2. It is further understood that (BLL) requires geotechnical and environmental reports to be prepared as part of the development by an independent consultant. This report outlines the findings of the environmental component of a joint geotechnical and environmental site assessment undertaken by Coffey. The findings of the geotechnical assessment have been provided in a separate report (ref: GEOTLCOV23048AA Geotechnical Report).

1.2 Objectives and Scope of Work

The objectives of this ESA were to:

- Investigate the site history to identify potentially contaminating activities performed on the site and adjacent to the site in the past or present;
- Assess the contamination status of fill material and residual soils beneath the site;
- Assess the suitability, with respect to contamination, of the site for the proposed development and recommend further investigation/remediation requirements for the investigation area to be suitable for the proposed use; and
- Assess the waste classification of soils at the site for offsite disposal.

The scope of work includes:

- A site walkover and site history review to identify potential areas of environmental concern (AECs) and chemicals of concern (CoCs);
- Field investigations;
- Laboratory testing; and
- Data assessment and reporting.

2 LOCATION AND SITE FEATURES

2.1 Site Identification and Features

The site is located at the corner of Olympic Boulevard and Herb Elliot Avenue, Homebush Bay and is part of the Sydney Olympic Park precinct (see Figure 1). The site is currently identified as development site 4B and cadastral information indicates the site is comprised of a large portion of Lot 60 of DP786296 and also includes a small portion of Lot 50 of DP 1045522 along the western site boundary.

The site is L-shaped with an area of about 5,000 m^2. The majority of the site is occupied by an asphalt carpark used by private motor vehicles. Minor oil staining from vehicles was observed on the asphalt in some areas and some portions of the asphalt in the centre of the carpark appeared to be newer than in other areas. A small portion of the site along the northern and western site boundaries is landscaped and includes a row of mature trees, garden beds, grassed park and public walkway. No visible signs of plant stress were observed in the landscaped areas.

The site slopes very gently to the north-west. The ground surface level at the row of trees along the western boundary is about 1m lower than the ground surface level of the carpark.

2.2 Surrounding Landuse

Surrounding landuse in the vicinity of the site is predominantly recreational open space areas and public amenities associated with sporting facilities at Sydney Olympic Park. Notably, a small triangular grassed park known as Site 4A is located to the north-west, commercial buildings are located to the south and east, Sydney Olympic Park Aquatic and Athletic Centre are located to the west, Telstra Stadium is located to the north-west and Sydney Showground and associated facilities are located to the north of the site.

2.3 Local Geology and Hydrogeology

The Sydney Geological Sheet 9130 (Edition 1983, 1:100,000 scale) indicates that Ashfield Shale underlies the site. The shale is described as black to dark grey shale and laminite.

Topographically the investigation area is located within a relatively flat low lying area.

Fill material is present overlying residual soils and shale bedrock at the investigation area.

It is anticipated that the regional groundwater table is likely to be present within the shale bedrock, however, perched seepage water may be present at the bedrock and overlying residual soil interface.

2.4 Acid Sulfate Soil Potential

A review of the Acid Sulfate Soil Risk Map for Prospect/Parramatta River (2nd Edition, 1997) indicated the site is located in an area of no known occurrences of acid sulfate soil materials.

3 SITE HISTORY REVIEW

The site history study undertaken by Coffey included:

- A site visit by a Coffey Environmental Engineer;
- Review of environmental reports undertaken on nearby sites by Coffey;

- Review of aerial photography of the site area;
- Review of WorkCover records of the site area;
- Review of historical site ownership.

3.1 Site Walkover

A Coffey Environmental Engineer visited the site on 10 August 2006. Observations made during the site walkover are summarised in Section 2.1.

3.2 Review of previous Coffey Environmental Reports

A search of previous Coffey environmental investigations on nearby sites identified a Coffey ESA undertaken at the small park known as site 4A to the north-west of the site in November 2005. The findings of the ESA are summarised below.

- Site 4A and the current investigation area site 4B were formerly one large block;
- Sites located to the south-west of site 4A including the Athletics and Aquatics Centre (approximately 150m from current investigation site 4B) contain contaminated soil beneath a cap (i.e. concrete and other similar impermeable pavement materials) and were former landfill areas There is no visual evidence of capped contaminated material or putrescible material beneath site 4A or the current investigation area site 4B;
- Site 4A was formerly part of the operation of an abattoir facility located immediately north. However, it is understood that physical structures resulting from the operations of the abattoir did not occupy site 4A at any stage nor were any activities relating to operation of the abattoir undertaken on site 4A. Similarly, based on the site history it is considered that there is a low likelihood that site 4B was used in the operation of the abattoir;
- Filling is known to have formerly occurred on site 4A as part of the redevelopment of the investigation area prior to the Sydney 2000 Olympics, however, the timing of the filling, quantity of fill imported and contamination status of the imported fill material is unknown. It is considered that there is a high likelihood that site 4B was also subject to filling as part of the Sydney Olympic Park project;
- The site history component of the 2005 ESA concluded that the most likely contaminating activity that has occurred on site 4A was the placement of fill in an uncontrolled manner;
- Soil samples were collected from seven boreholes drilled at Site 4A to depths ranging from 0.4m to 3.25m;
- The subsurface profile comprised topsoil / clay fill up to a depth of 2m underlain by residual clay up to a depth of 2.35m underlain by shale bedrock. Traces of ash material were observed in fill layers in a number of boreholes;
- Concentrations of all contaminants tested for were below the human health based investigation level for commercial / industrial sites. Total benzo(a)pyrene concentrations in two fill samples exceeded the SCC1 inert waste criteria;
- The 2005 ESA report concluded that the elevated PAH concentrations detected in the fill may have been present in the fill material when it was imported and is likely to be associated with the ash

material present in the fill. The sampling and analysis indicated that there was a low likelihood of widespread contamination exceeding the commercial / industrial landuse criteria being present on site 4A.

3.3 Titles Search

A list of past registered proprietors and lessors for the site identified as part of Lot 60 DP786296 and Lot 50 DP 1045522 was obtained from the Land Titles Office. The current title details and cadastral plan are included in Appendix A. A summary of title information for the site is summarised below:

- The Minister for Public Works of the Shire of New South Wales was the registered proprietors of both lots covering the site from 1910 to 1929;
- From 1929 until 1987 the proprietorship of the site was held between the Metropolitan Meat Industry Board and The Metropolitan Meat Industry Commissioner;
- In 1987 the site came under the proprietorship of the Homebush Abattoir Corporation;
- In 1993, Lot 60 of DP786296 came under the proprietorship of the Olympic Co-Ordination Authority and then the Sydney Olympic Park Authority in 2002;
- In 2002, Lot 50 of DP 1045522 came under the proprietorship of the Sydney Olympic Park Authority;
- Both lots covering the site are presently under the proprietorship of the Sydney Olympic Park Authority.

3.4 Review of Aerial Photographs

A review of historical and recent aerial photographs of the site is presented in the Table 1.

TABLE 1: Summary of Aerial Photograph Review

Year of Photo	Site Description	Surrounding Area Description
1951 (Black & White)	The site appears to be part of a large cleared triangular block with a line of trees along the northern and western site boundaries. A portion of the site along the western site boundary overlaps with a road.	The former Homebush Bay abattoir is located directly to the north of the site across the roadway running along the northern site boundary. The site is bounded to the north and west by road and is bounded to the south and east by grassed cleared land. A rail corridor running toward the abattoir is located some distance to the west. Land immediately to the east, west and south of the site comprise largely cleared rectangular blocks of land possibly used for agricultural purposes. Cattle holding pens are also visible to the far west of the site and a mix of residential and commercial properties are visible to the far south and east of the site. Bushland is also

		visible to the east.
1961 (Black & White)	The site appears largely unchanged from the previous photograph.	The surrounding area appears to be largely unchanged from the previous photograph.
1986 (Colour)	A number of narrow dirt paths are visible across the grass in the vicinity of the site area and a number of vehicles have been parked on a part of the cleared land a small distance to the south of the site. The remainder of the site appears largely unchanged from the previous photograph.	The area to the south of the site appears to be cleared and under development and features a large dam (possibly used for dredging). The Homebush Bay 'brickpit' is also visible to the north-east. A commercial complex has also been constructed to the west of the site. General development appears to have increased in other areas of the photograph.
1999 (Colour)	The site comprises a carpark and a row of trees and park along the western boundary. It is possible that the trees are remnants of the original site layout observed prior to the redevelopment in the previous photograph. This layout was observed during fieldwork in August 2006.	The area surrounding the site has been completely redeveloped and features a mixture of commercial complexes and Olympic Park infrastructure including sporting arenas and rail lines. An extensive network of new roads and footpaths has also been constructed in the vicinity of the site. The large abattoir complex to the north appears to have been removed with the exception of a small cluster of buildings to the north of Herb Elliott Ave. The development to the far south of the site appears to be near completion and features commercial buildings, landscaped parkland and the large dam observed in the previous photograph.
2006 (Colour)	The site appears largely unchanged from the previous photograph.	The development to the far south of the site appears to be completed. The remaining surrounding areas appear largely unchanged from the previous photograph.

3.5 WorkCover Records

Records obtained from the Stored Chemical Information Database and the microfiche records by WorkCover NSW, regarding the site showed no records of dangerous goods stored on the property. WorkCover Records search results are presented in Appendix B.

3.6 Summary of Site History

The information obtained from the site history review and site walkover can be summarised as follows:

- The site is currently occupied by an asphalt carpark with some landscaping including a row of trees and public walkway along the northern and western site boundaries;
- The site is comprised of two lots, Lot 60 of DP786296 occupying most of the site and also Lot 50 of DP 1045522 occupying a small portion of the site along the western boundary;
- Historical title information indicates both lots of the site were owned by The Minister for Public Works of the Shire of New South Wales from 1910 to 1929;
- The site was owned by the Metropolitan Meat Industry Board and The Metropolitan Meat Industry Commissioner from 1929 until 1987 when it came under the proprietorship of the Homebush Abattoir Corporation;
- In 1993, Lot 60 of DP786296 came under the proprietorship of the Olympic Co-Ordination Authority and then the Sydney Olympic Park Authority in 2002;
- In 2002, Lot 50 of DP 1045522 came under the proprietorship of the Sydney Olympic Park Authority;
- Both lots are currently under the proprietorship of the Sydney Olympic Park Authority;
- Aerial photographs from the early 1950s until the late 1980s indicate the site was part of a cleared triangular block with a line of trees running along the northern and western site boundary. The site appears to have been used as parkland. The portion of the site in Lot 50 of DP 1045522 along the western site boundary appears to have been part of a road during this period;
- An aerial photograph from 1986 indicates a number of small tracks located on the site area and a number of vehicles were parked on the cleared block a small distance to the south of the site. It is possible that the site area was also used for the parking or storage of vehicles during this period;
- An aerial photograph from 1999 indicated the site had been redeveloped to its current condition since the previous photograph in 1986 as part of the Sydney Olympic Park project. It is possible that the trees located along the western boundary are remnants of the original site layout as observed in photographs prior to 1999;
- An aerial photograph from 2006 indicates the site has been unchanged since 1999;
- Workcover did not locate any records regarding dangerous goods licensing on the site;
- A review of a previous Coffey environmental investigation at the small park known as site 4A to the immediate north-west of the site from November 2005 revealed:
    - Sites located approximately 150m to the south-west of the current investigation area including the Athletics and Aquatics Centre contain contaminated soil beneath a cap (i.e. concrete and other similar impermeable pavement materials) and were former landfill areas;
    - It is considered that there is a low likelihood that site 4B has been used in the operation of the abattoir;
    - Filling is known to have formerly occurred in the site area as part of the redevelopment of the area prior to the Sydney 2000 Olympics, however, the timing of the filling, quantity of fill imported and contamination status of the imported fill material is unknown. It is considered that there is a high likelihood that site 4B was subject to filling as part of the Sydney Olympic Park project;

- Laboratory analysis of selected soil samples at site 4A identified the presence low level PAHs in some compounds. The PAHs were considered to be attributable to the presence of traces of ash material observed in some fill layers. It is possible that fill material present at site 4B could also be impacted by PAHs.

3.7 Gaps in the Site History

The following gaps in the site history study were identified:

- The source, extent and contamination status of fill material on the site (if present) is not known.

4 POTENTIAL AREAS OF ENVIRONMENTAL CONCERN (AEC) AND CHEMICALS OF CONCERN (COC)

Based on the site history review, it is considered that the main potentially contaminating activity that had occurred on the site is the placement of fill in an uncontrolled manner. Typical potential chemicals of concern associated with fill material include heavy metals, TPH, BTEX, PAH, OCPs, PCBs and Asbestos. There is also a low likelihood that oil or fuel may have leaked from vehicles parked on site and penetrated the asphalt pavement and impacted surface soils. Typical potential chemicals of concern associated with oil and fuel from motor vehicles include, heavy metals, TPH, BTEX and PAH.

5 INVESTIGATION CRITERIA

5.1 Soil

The investigation criteria for soil investigation were established based on the following references:

- NSW DEC (2006) Guidelines for the NSW Auditor Scheme (Second Edition);
- NSW EPA (1994) Guidelines for Assessing Service Station Sites; and
- NEPC (1999) National Environmental Protection (Assessment of Site Contamination) Measure (NEPM).

Other references were used to supplement the above references where appropriate.

The NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme and the NEPM present health based investigation levels for different landuses (eg. industrial / commercial, residential, recreational etc.) as well as provisional phytotoxicity based investigation levels.

The site is proposed to be developed as a hotel which is considered to be consistent with a commercial / industrial landuse setting.

For commercial / industrial sites the health-based investigation levels (HIL) for commercial and industrial use (Column 4 of Appendix II in the NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme (Second Edition)) may be used as investigation levels. NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme does not require an assessment against the phytotoxicity-based investigation levels for commercial / industrial sites.

NSW EPA (2006) Guidelines do not provide threshold levels for volatile petroleum hydrocarbon compounds. NSW EPA (1994) Guidelines for Assessing Service Station Sites provide an indication of acceptable cleanup levels for petroleum hydrocarbons compounds at service station sites to be reused

for sensitive land-uses. The EPA has advised that these guidelines should also be used for less sensitive land-uses. For semi-volatile petroleum hydrocarbons (C16 – C35 and >C35) investigation levels are provided in the NSW EPA (2006) Guidelines, however, these are based on the NEPM health-based criteria, which require the laboratory analysis to unequivocally differentiate between aromatic and aliphatic compounds. If this cannot be done, the C10 – C40 criteria in the service station guidelines should be applied.

There are currently no national or NSW guidelines for asbestos in soil. The NSW DEC has advised that asbestos is a human health issue and not an environmental issue. On the advice of the NSW Department of Health, the NSW DEC has advised NSW Site Auditors (Site Auditors Meeting 1 March 2000) that "no asbestos in the soil at the surface is permitted". Enhealth (2005) 'Guidelines for Asbestos in the Non-Occupational Environment', provides some guidance on assessing and managing asbestos in soil although does not provide a threshold concentration or investigation level for asbestos.

The adopted soil investigation levels are included in table LR1.

5.2 Waste Classification Procedure

The procedures for classifying waste are detailed in the NSW DEC Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (2004).

For the purposes of waste classification, virgin excavated natural material (VENM) includes clay, gravel, sand, soil and rock that have not been mixed with other waste and that:

- have been excavated from areas that are not contaminated, as a result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and that does not contain sulphidic ores or soils; or
- consist of excavated natural materials that meet such criteria as may be approved by the EPA.

Non-virgin excavated material and material that has been excavated from a contaminated area must be classified using the procedures in Technical Appendix 1 of the guidelines. Excavated material is classified by comparing analytical results from the material to threshold criteria provided in the guidelines. The guidelines provide threshold concentrations for three different non-liquid waste categories, namely; inert waste; solid waste; and industrial waste. The wastes which fail to meet the criteria for industrial waste classify as hazardous waste. The guidelines classify various non-liquid wastes into these categories by virtue of being a particular waste type. For those wastes which are not classified into a waste category, the guidelines provide threshold values for total soil concentrations and leachable concentrations based on TCLP test. Threshold levels are given for about 50 contaminants and groups of contaminants. For a waste to be classified under a given category, both total and leachable concentrations of the waste should meet the respective threshold concentrations. The waste may be classified solely based on total concentrations (i.e. without undertaking leachability testing), but the applicable threshold concentrations when leachability testing is not undertaken are substantially lower (i.e. more stringent) than would apply when leachability testing is undertaken.

Any soil containing asbestos classifies as asbestos waste.

6 FIELD INVESTIGATIONS

6.1 Soil Sampling

Field investigations for the ESA were undertaken on 10 and 11 August 2006. The fieldwork comprised the drilling of thirteen boreholes (identified as BH01 to BH13) with the aid of a truck mounted drill rig.

The boreholes were drilled to depths ranging from 1.3m to 2.2m below ground level using solid flight augers. The boreholes were generally extended 0.5m into residual soils and extremely weathered shale. Soil samples were collected at selected intervals from each of the boreholes using a Standard Penetration Test (SPT) sampler. Borehole logs are presented in Appendix C.

Borehole locations were selected to provide general coverage of the site. The number of sampling locations complied with the NSW EPA Sampling Design Guidelines which recommend a minimum of thirteen sampling locations for a site of 5,000m^2 in area.

Each sample was divided into two sub-samples. One of the sub-samples was placed into a laboratory-supplied, acid-rinsed 250mL glass jar and placed in an ice-chilled cooler box. The other was placed in a snap lock bag for field headspace screening.

A photoionisation detector (PID) was used to screen the headspace gases of the bagged soil samples during initial field investigations. The PID provides a semi-quantitative indication of the presence of ionisable volatile organic compounds in the soil. The PID had a 10.6eV lamp calibrated with isobutylene gas at 100ppm prior to commencement of fieldwork.

Approximate borehole locations are shown on Figure 2.

6.2 Field Quality Assurance/Quality Control

Sampling activities, were generally based on procedures and protocols outlined in Coffey's Environmental Field Manual (QP15/5-E, June 1995, revised September 1997), which is based on industry accepted standard practice.

Augers were cleaned between holes using water under high pressure. Sampling equipment that came directly in contact with the soil (e.g. SPT) were decontaminated between samples by scrubbing with a solution of Decon-90, a phosphate-free detergent followed by rinsing with potable water. A clean pair of disposable gloves was used when handling each sample.

The samples were placed into a laboratory-supplied, acid-rinsed 250mL glass jars and placed in an ice-chilled cooler box.

Three intra-laboratory duplicate soil samples (identified as DUP1 duplicate of BH3 0.05-0.1m, DUP 2 duplicate of BH11:0.2-0.6m and DUP3 duplicate of BH13:0.3-0.7m) were analysed. The duplicates were used to check whether the sampling and laboratory procedures adequately reproduced results.

One wash blank identified as WB1 11/08/06 was collected from the SPT sampler by pouring rinsate water onto the SPT. Runoff from the SPT was collected and put into appropriate sampling bottles for analysis. The wash blank was collected to assess the efficacy of field decontamination procedures.

Trip spike and trip blank samples identified as TS 100806 / TB 100806 and TS110806 / TB110806 were taken into the field for each day of soil sampling and analysed to assess potential loss or gain of volatiles as a result of sampling and handling procedures.

6.3 Laboratory Analysis

Analytical Laboratories used by Coffey for this investigation included:

- Primary Laboratory – ALS;
- Asbestos Analysis – Australian Safer Environment & Technology Pty Ltd (ASET) (subcontracted by ALS);

The above laboratories are NATA registered for the analysis undertaken.

Soil samples from the field investigations were delivered to the laboratories by Coffey on 11 August 2006 under chain of custody conditions.

In total, twenty six primary soil samples selected for laboratory analysis. In addition, three duplicate soil samples and two trip spike/trip blank sets were analysed to satisfy quality assurance/quality control requirements for environmental sampling (Section 6.2). The remaining samples were held by the laboratory for future analysis if required.

The analytical suite was generally based on chemicals of concern identified during the site history review, Coffey's local experience on nearby sites including the adjacent site and field observations during sampling. The soil samples were selected for analysis based on a combination of the sample location, field observations (i.e. material type, odours, etc) and PID results. Two samples were selected from each borehole location for laboratory analysis.

7 RESULTS

7.1 Subsurface Conditions

The results of the investigation indicate that the subsurface profile at the borehole locations comprises topsoil / fill overlying residual soils and shale bedrock.

Based on the information obtained from the boreholes in the ESA a summary of subsurface conditions has been prepared and is presented below in Table 2. For a detailed description of the subsurface conditions encountered at the borehole locations, refer to the Borehole Logs in Appendix C, together with Explanation Sheets describing the terms and symbols used in their preparation.

TABLE 2: SUMMARY OF SUBSURFACE CONDITIONS AT BOREHOLE LOCATIONS

Unit	Description	Depth to Base Of Unit (m)	Thickness Of Unit (m)
1. Fill	Near surface fill typically: • Asphalt (encountered in BH1-BH8 only); • Topsoil/Woodchip (encountered in BH9-BH13 only); • Road Base (Gravelly Clay/ Sand) (encountered in BH1-2, BH4-BH8 only).	0.15 to 0.5	0.15 to 0.5

Unit	Description	Depth to Base Of Unit (m)	Thickness Of Unit (m)
	Deeper fill typically: • Silty Clay with some gravels (encountered in BH4, BH9-BH13 only).	0.2 to 0.8	0.2 to 0.8
2. Residual Soil	Typically: • Silty CLAY; • Medium and high plasticity; • Some ironstone gravels; • Very Stiff to Hard consistency.	1.2 to 2.2*	0.5 to 1.7*

Note:

* The base of the unit was not encountered in all environmental boreholes and therefore the depth to the base of the unit and the thickness of the unit is not known at all environmental sampling locations.

Extremely weathered shale was encountered underlying residual clay in BH05, BH09, BH10 and BH12. Refer to Coffey Geotechnical Report (ref: GEOTLCOV23048AA Geotechnical Report) for further information on subsurface conditions.

The depth of reworked residual silty clay fill was variable across the site and in some locations closely resembled the underlying natural clays. Therefore it is possible that some natural soil has been logged as fill (and visa versa) in some locations.

Minor visual evidence of material that could potentially be contaminated was observed in two boreholes, including:

- Two pieces of black gravel possibly slag observed in fill collected from the top of the SPT sampler following an SPT into natural soil from 1.0-1.2m in BH06. The black gravel was not observed during sampling of shallower fill layers from BH06;
- A layer of gravely sand with a green/grey colour was observed from 0.35-0.45m in BH09. This layer of material was observed to be odourless;
- A number of black gravel possibly slag and brick fragments were also observed from 0.45-0.7m in BH09.

Visual or olfactory evidence of contamination was not observed at the other sample locations.

7.2 PID Results

Thirty-six samples were subjected to PID headspace screening during the investigation. PID readings ranged between 0ppm and 1.2ppm suggesting that volatile ionisable organic compounds that can be detected by a PID with a 10.6eV lamp were not present at significant concentrations in the samples collected. PID results and calibration details are presented in Appendix D.

7.3 Laboratory Results

Soil sample analytical results are summarised in Table LR1. The laboratory analytical reports are presented in Appendix E.

7.4 Quality Assurance / Quality Control (QA/QC) Results and Data Usability

Samples were received by ALS within the recommended holding times. Copies of the Chain of Custody documentation are included in Appendix E.

A data validation report for all batches has been prepared for QA/QC purposes and is presented in Appendix F.

The data usability assessment concluded that the soil results are likely to be reasonably representative of conditions at the sampling locations at the time of sampling.

7.5 Comparison of Results with Investigation levels

Comparison of the laboratory results to the Health Based Investigation Levels (HILs) listed in Section 5.1 are summarised as follows:

- Heavy metal concentrations were below the HILs for commercial/industrial landuse in the samples analysed and generally at concentrations consistent with typical background metal concentrations in urban areas;
- Total PAHs were detected at concentrations below the HILs for commercial/industrial landuse of 100mg/kg in the twenty six samples analysed. One sample, BH12: 0.05-0.1, reported Total PAHs at a concentration of 9.3mg/kg while the remaining twenty five samples reported below laboratory detection limits. The PAH compound benzo(a)pyrene was detected in sample BH12: 0.05-0.1 at a concentration of 1mg/kg which is below the HILs for commercial/industrial landuse of 5mg/kg. Benzo(a)pyrene was not detected above the laboratory detection limits in the remainder of the samples analysed;
- TPH, BTEX, OCPs and PCBs were below analytical detection in the samples analysed; and
- Asbestos was not detected in the samples analysed.

7.6 Comparison of Results with waste classification guidelines

Comparison of the laboratory results (Table LR1) to the waste classification guidelines listed in Section 5.2 indicated that the concentrations of all contaminants tested for in fill were below or equal to the inert waste criteria. It is noted that fill sample BH12: 0.05-0.1 reported a concentration of benzo(a)pyrene equal to the inert waste criteria value of 1mg/kg. Samples collected from the natural material underlying the fill reported contaminant concentrations below the inert waste criteria.

8 CONCLUSIONS AND RECOMMENDATIONS

The field investigations revealed the site was underlain by a layer of asphalt (or topsoil/ garden mulch material in garden bed areas) overlying silty and gravely clay fill from approximately 0.15m to 0.8m across the site. A small amount of black gravel possibly slag and brick fragments were observed in fill in two boreholes. No other visual or olfactory evidence suggesting soil contamination was observed during the sampling. The fill material was observed to be underlain by residual clays and weathered shale.

Concentrations of contaminants tested for were below the HILs for commercial / industrial landuse and were below or equal to the inert waste criteria.

The results indicate that the site is likely to be suitable, with respect to contamination, for the proposed commercial / industrial landuse. In addition, the results suggest the majority of fill materials which requires excavation and offsite disposal for construction of the basement levels are likely to classify as inert waste in accordance with NSW EPA (1999) while the majority of underlying natural residual soils and shale would be likely to classify as VENM.

It is important to note that the nature of contaminated site investigation is such that the degree of variability in site conditions cannot be known completely and no sampling and analysis program can eliminate all uncertainty concerning the condition of the site and the waste classification and usability of soils. Consequently, the possible presence of as yet unidentified contaminants cannot be precluded. This is particularly the case when assessing fill material where conditions can change significantly over small distances. Furthermore, while no evidence of asbestos has been identified in the fill, it is common for asbestos containing materials such as fibre cement sheeting fragments to be present within fill material in Sydney, and if present this would result in a higher waste classification (minimum solid waste) as well as extra health and safety requirements. For this reason, it is recommended that an inspection and test program and a contingency plan including be designed and implemented during earthworks providing procedures to be followed in the event that as yet unidentified potentially contaminated material including asbestos is identified.

Given that no groundwater was detected above the shale bedrock in the investigation and the generally low levels of soil contamination identified, it is considered there is a low likelihood that the site would have contributed significant contamination to groundwater. Should groundwater require dewatering during or post development it would need to be tested to assess disposal options.

This report should be read in conjunction with the attached information sheet ‘Statement of Limitations for Environmental Services’.

9 LIMITATIONS

The findings contained within this report are the result of discrete/specific sampling methodologies used in accordance with normal practices and standard. To the best of our knowledge, they represent a reasonable interpretation of the general condition of shallow soil at the investigation area. Under no circumstances, however, can it be considered that these findings represent the actual state of the investigation area at all points.

It is important to note that due to the large volume of fill material encountered on the investigation area, the possibility of buried contaminated material, other than that identified, being present at the investigation area can not be precluded.

This report was prepared for Bovis Lend Lease Pty Ltd and cannot be relied upon by any other parties.

10 REFERENCES

Coffey Geosciences (2005), Environmental Site Assessment, Proposed Sofitel Hotel, Corner of Olympic Boulevard and Herb Elliot Avenue, Homebush Bay. Reference: S22332/03-AI

NSW EPA (1997). Guidelines for Consultants Reporting on Contaminated Sites.

NSW DEC (2004) Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes.

NEPC (1999) National Environmental Protection (Assessment of Site Contamination) Measure (NEPM).

NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme.

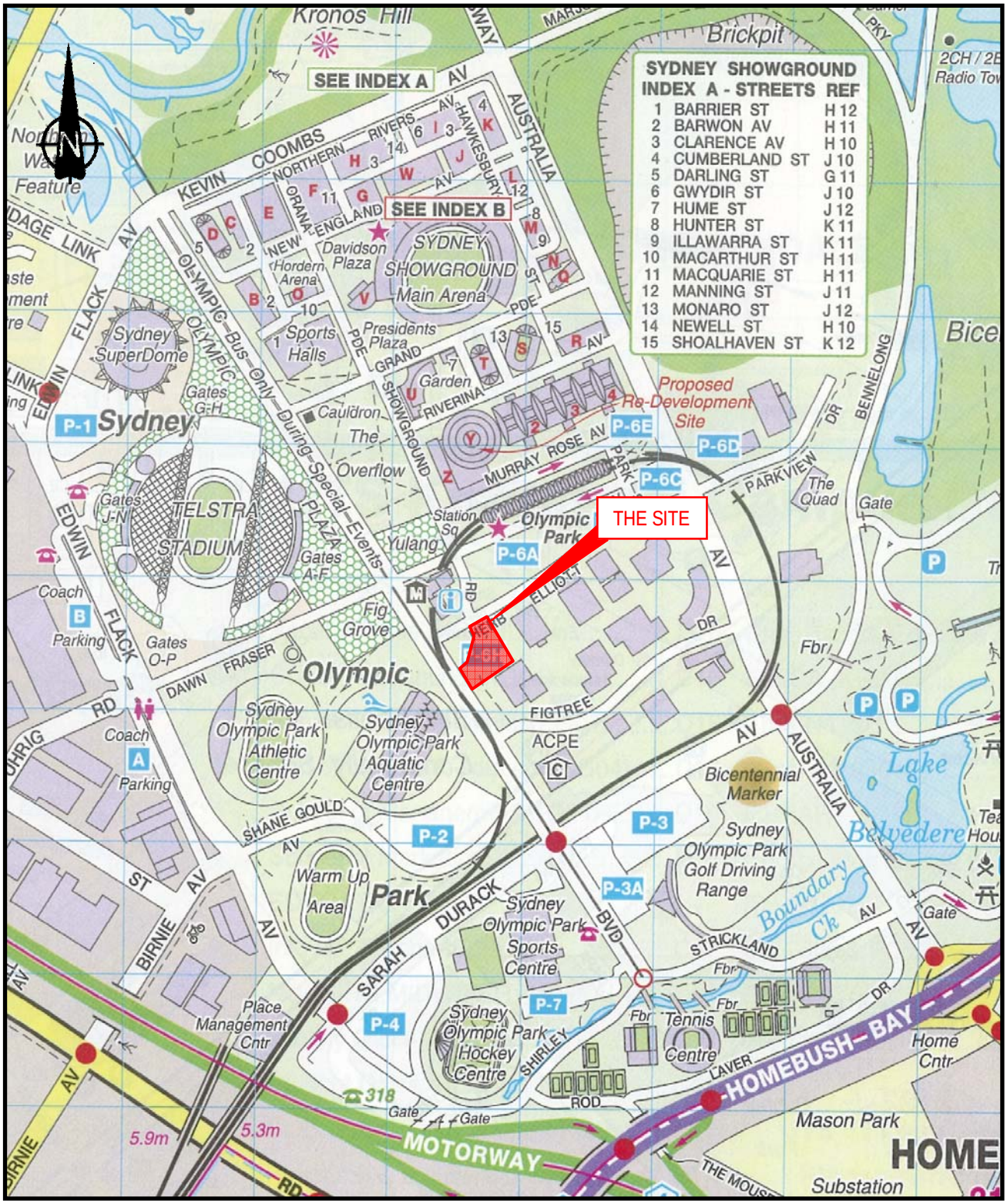
NSW EPA (1994) Guidelines for Assessing Service Station Sites.

For and on behalf of Coffey Geotechnics Pty Ltd

JOSHUA LASKY

Senior Environmental Engineer

Figures



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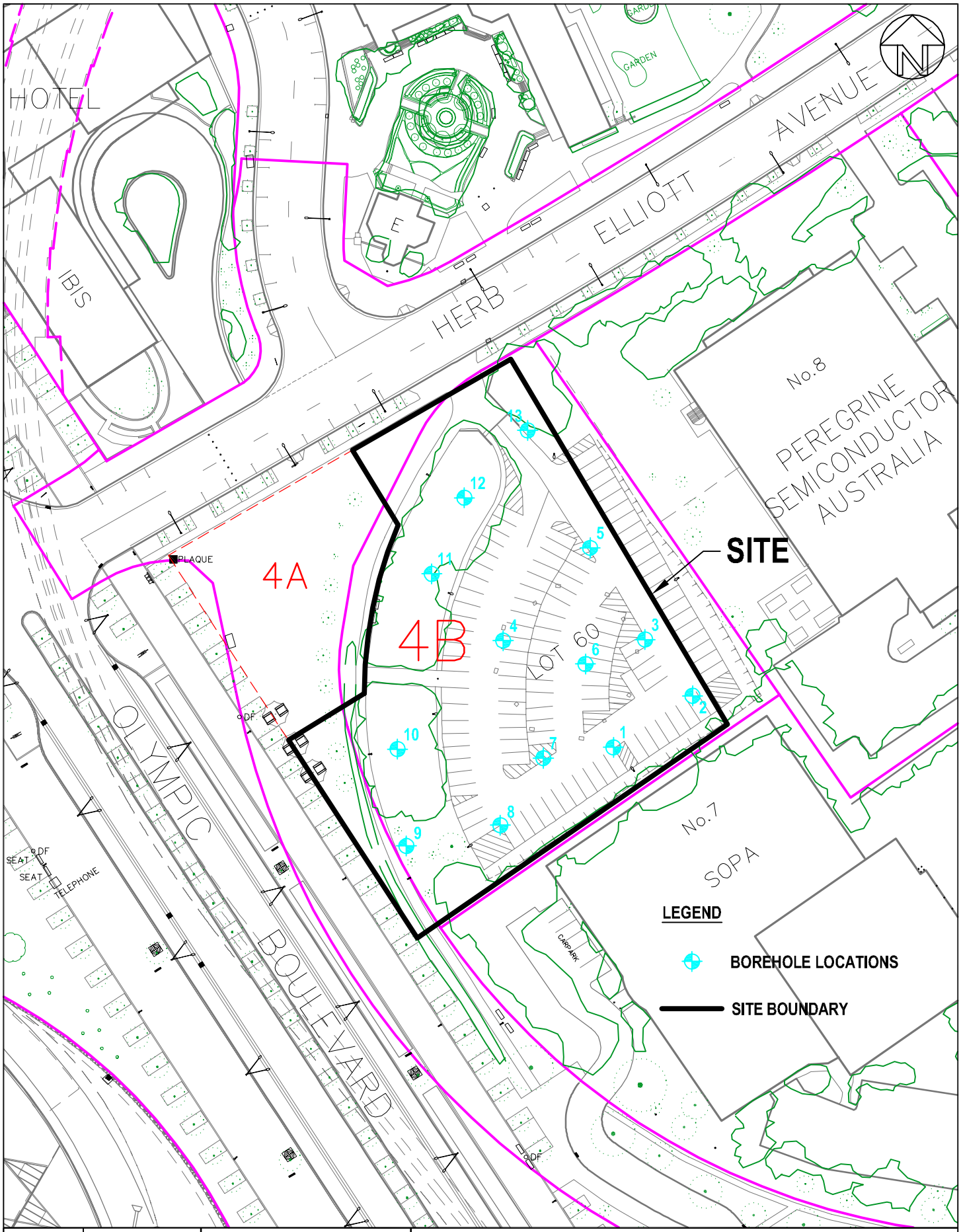
approved	JML		project:	ENVIRONMENTAL SITE ASSESSMENT PROPOSED COMMERCIAL DEVELOPMENT – CORNER OF OLYMPIC BOULEVARD & HERB ELLIOTT AVENUE, HOMEBUSH BAY
date	29/8/06		title:	SITE LOCATION
scale	AS SHOWN			
original size	A4		project no: GEOTLCOV23048AA	figure no: FIGURE 1



drawn	JD/AW	coffey geotechnics SPECIALISTS MANAGING THE EARTH	client: BOVIS LEND LEASE	
approved	JML		project: ENVIRONMENTAL SITE ASSESSMENT PROPOSED COMMERCIAL DEVELOPMENT - CORNER OF OLYMPIC BOULEVARD AND HERB ELLIOTT AVENUE, HOMEBUSH BAY	
date	29/8/06		title: SITE LAYOUT PLAN FEATURING BOREHOLE LOCATIONS	
scale	1:1000		project no: GEOTLCOV23048AA	figure no: FIGURE 2
original size	A4			

Summary of Laboratory Results

GEOTLCOV23048AA-AG
23/01/2007

TABLE LR1
SUMMARY OF LABORATORY RESULTS
All results in mg/kg unless otherwise stated

Sample Location	THRESHOLD							BH01	BH01	BH02	BH02	BH03	BH03	BH04	BH04	BH05
Depth	CONCENTRATION	WASTE CLASSIFICATION CRITERIA						0.03-0.10	1.1-1.2	0.1-0.2	0.9-1.0	0.05-0.10	0.5-0.6	0.05-0.10	0.5-0.7	0.05-0.10
Date of Sampling	Commercial	INERT		SOLID		INDUSTRIAL		10-Aug-06	10-Aug-06	10-Aug-06	10-Aug-06	10-Aug-06	10-Aug-06	10-Aug-06	10-Aug-06	11-Aug-06
Geological Origin								Fill	Residual	Fill	Residual	Fill	Residual	Fill	Fill	Fill
HEAVY METALS																
Arsenic	500 [1]	500	[6]	500	[8]	2000	[10]	7	<5	<5	9	<5	<5	<5	12	<5
Cadmium	100 [1]	100	[6]	100	[8]	400	[10]	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium		1900	[6]	1900	[8]	7600	[10]	14	3	24	12	10	<2	15	28	11
Copper	5000 [1]							23	13	162	52	16	15	23	9	16
Lead	1500 [1]	1500	[6]	1500	[8]	6000	[10]	24	7	29	10	18	8	28	19	45
Mercury	75 [1]	50	[6]	50	[8]	200	[10]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1
Nickel	3000 [1]	1050	[6]	1050	[8]	4200	[10]	9	<2	28	6	<2	<2	11	3	10
Zinc	1500 [1]							27	<5	103	48	12	<5	43	8	57
TOTAL PETROLEUM HYDROCARBONS																
C6 - C9 Fraction	65 [2]	650	[6]	650	[8]	2600	[10]	<2	<2	<2	<2	<2	<2	<2	<2	<2
C10 - C14 Fraction								<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction								<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction								<100	<100	<100	<100	<100	<100	<100	<100	<100
Total C10-C36	1000 [2]	5000	[6]	10000	[8]	40000	[10]	<252	<252	<252	<252	<252	<252	<252	<252	<252
BTEX																
Benzene	1 [2]	1	[3]	10	[4]	40	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	130 [2]	28.8	[3]	288	[4]	1152	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	50 [2]	60	[3]	600	[4]	2400	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Xylene	25 [2]	100	[3]	1000	[4]	4000	[5]	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
POLY AROMATIC HYDROCARBONS (PAH)																
Naphthalene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	5 [1]	1	[6]	10	[8]	23	[10]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenzo(a,h)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PAH	100 [1]	200	[6]	200	[8]	800	[10]	ND	ND	ND	ND	ND	ND	ND	ND	ND
POLYCHLORINATED BIPHENYLS (PCB)																
Total PCBs	50 [1]							-	-	-	-	-	<0.10	-	-	<0.10
ORGANICHLORINE PESTICIDES (OCP)																
ALL OCPs								-	-	-	-	-	<0.2	-	-	<0.2
ASBESTOS								ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP - HEAVY METALS (mg/L)																
Arsenic		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	-	-
Cadmium		0.10	[7]	1.0	[9]	4	[11]	<0.05	-	-	-	-	-	-	-	-
Chromium		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	-	-
Copper								<0.1	-	-	-	-	-	-	-	-
Lead		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	-	-
Mercury		0.02	[7]	0.2	[9]	0.8	[11]	<0.0010	-	-	-	-	-	-	-	-
Nickel		0.20	[7]	2.0	[9]	8	[11]	<0.1	-	-	-	-	-	-	-	-
Zinc								<0.1	-	-	-	-	-	-	-	-
TCLP - POLY AROMATIC HYDROCARBONS (PAH) (ug/L)																
Benzo(a)pyrene		4	[7]	40	[9]	160	[11]	<0.5	-	-	-	-	-	-	-	-
Other PAHs								<1.0	-	-	-	-	-	-	-	-

Notes:

Concentration exceeds the commercial based threshold concentration
Concentration exceeds the respective Inert Waste Criteria
Concentration exceeds the respective Solid Waste Criteria
Concentration exceeds the respective Industrial Waste Criteria

[1] Based on the Health Based Soil Investigation Level in Column 4 of the NSW Site Auditor Scheme (2006)
[2] Based on NSW EPA (1994) Guidelines for Assessing Service Station Sites
[3] Based on the Inert Waste Criteria (CT1) in Table A3 of NSW EPA (1999)
[4] Based on the Solid Waste Criteria (CT2) in Table A3 of NSW EPA (1999)
[5] Based on the Industrial Waste Criteria (CT3) in Table A3 of NSW EPA (1999)
[6] Based on the Inert Waste Criteria (SCC1) in Table A4 of NSW EPA (1999)
[7] Based on the Inert Waste Criteria (TCLP1) in Table A4 of NSW EPA (1999)
[8] Based on the Solid Waste Criteria (SCC2) in Table A4 of NSW EPA (1999)
[9] Based on the Solid Waste Criteria (TCLP2) in Table A4 of NSW EPA (1999)
[10] Based on the Industrial Waste Criteria (SCC3) in Table A4 of NSW EPA (1999)
[11] Based on the Industrial Waste Criteria (TCLP3) in Table A4 of NSW EPA (1999)
ND Not Detected
\- Not Analysed

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TABLE LR1
SUMMARY OF LABORATORY RESULTS
All results in mg/kg unless otherwise stated

Sample Location	THRESHOLD							BH05	BH06	BH06	BH07	BH07	BH08	BH08	BH09	BH09
Depth	CONCENTRATION	WASTE CLASSIFICATION CRITERIA						0.5-0.7	0.25-0.4	1.0-1.1	0.05-0.10	0.2-0.4	0.2-0.4	1.0-1.3	0.2-0.3	0.35-0.45
Date of Sampling	Commercial	INERT		SOLID		INDUSTRIAL		11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06
Geological Origin								Residual	Residual	Residual	Fill	Residual	Residual	Residual	Fill	Fill
HEAVY METALS																
Arsenic	500 [1]	500	[6]	500	[8]	2000	[10]	16	8	9	<5	8	10	<5	<5	<5
Cadmium	100 [1]	100	[6]	100	[8]	400	[10]	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium		1900	[6]	1900	[8]	7600	[10]	13	14	5	14	10	26	4	8	13
Copper	5000 [1]							13	10	21	29	13	10	12	19	59
Lead	1500 [1]	1500	[6]	1500	[8]	6000	[10]	30	13	18	35	42	22	10	14	5
Mercury	75 [1]	50	[6]	50	[8]	200	[10]	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000 [1]	1050	[6]	1050	[8]	4200	[10]	<2	<2	4	11	<2	3	<2	8	160
Zinc	1500 [1]							<5	<5	18	47	<5	8	5	22	47
TOTAL PETROLEUM HYDROCARBONS																
C6 - C9 Fraction	65 [2]	650	[6]	650	[8]	2600	[10]	<2	<2	<2	<2	<2	<2	<2	<2	<2
C10 - C14 Fraction								<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction								<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction								<100	<100	<100	<100	<100	<100	<100	<100	<100
Total C10-C36	1000 [2]	5000	[6]	10000	[8]	40000	[10]	<252	<252	<252	<252	<252	<252	<252	<252	<252
BTEX																
Benzene	1 [2]	1	[3]	10	[4]	40	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	130 [2]	28.8	[3]	288	[4]	1152	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	50 [2]	60	[3]	600	[4]	2400	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Xylene	25 [2]	100	[3]	1000	[4]	4000	[5]	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
POLY AROMATIC HYDROCARBONS (PAH)																
Naphthalene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	5 [1]	1	[6]	10	[8]	23	[10]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenzo(a,h)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PAH	100 [1]	200	[6]	200	[8]	800	[10]	ND	ND	ND	ND	ND	ND	ND	ND	ND
POLYCHLORINATED BIPHENYLS (PCB)																
Total PCBs	50 [1]							-	<0.10	-	<0.10	-	-	-	-	<0.10
ORGANICHLORINE PESTICIDES (OCP)																
ALL OCPs								-	<0.2	-	<0.2	-	-	-	-	<0.2
ASBESTOS								ND	ND	ND	ND	ND	ND	ND	ND	ND
TCLP - HEAVY METALS (mg/L)																
Arsenic		0.50	[7]	5.0	[9]	20	[11]	-	-	-	<0.1	-	-	-	-	-
Cadmium		0.10	[7]	1.0	[9]	4	[11]	-	-	-	<0.05	-	-	-	-	-
Chromium		0.50	[7]	5.0	[9]	20	[11]	-	-	-	<0.1	-	-	-	-	-
Copper								-	-	-	<0.1	-	-	-	-	-
Lead		0.50	[7]	5.0	[9]	20	[11]	-	-	-	<0.1	-	-	-	-	-
Mercury		0.02	[7]	0.2	[9]	0.8	[11]	-	-	-	<0.0010	-	-	-	-	-
Nickel		0.20	[7]	2.0	[9]	8	[11]	-	-	-	<0.1	-	-	-	-	-
Zinc								-	-	-	0.8	-	-	-	-	-
TCLP - POLY AROMATIC HYDROCARBONS (PAH) (ug/L)																
Benzo(a)pyrene		4	[7]	40	[9]	160	[11]	-	-	-	<0.5	-	-	-	-	-
Other PAHs								-	-	-	<1.0	-	-	-	-	-

Notes:

Concentration exceeds the commercial based threshold concent
Concentration exceeds the respective Inert Waste Criteria
Concentration exceeds the respective Solid Waste Criteria
Concentration exceeds the respective Industrial Waste Criteria

[1] Based on the Health Based Soil Investigation Level in Column 4
[2] Based on NSW EPA (1994) Guidelines for Assessing Service Sta
[3] Based on the Inert Waste Criteria (CT1) in Table A3 of NSW EPA
[4] Based on the Solid Waste Criteria (CT2) in Table A3 of NSW EP
[5] Based on the Industrial Waste Criteria (CT3) in Table A3 of NSW
[6] Based on the Inert Waste Criteria (SCC1) in Table A4 of NSW E
[7] Based on the Inert Waste Criteria (TCLP1) in Table A4 of NSW E
[8] Based on the Solid Waste Criteria (SCC2) in Table A4 of NSW E
[9] Based on the Solid Waste Criteria (TCLP2) in Table A4 of NSW E
[10] Based on the Industrial Waste Criteria (SCC3) in Table A4 of NS
[11] Based on the Industrial Waste Criteria (TCLP3) in Table A4 of NS
ND Not Detected
\- Not Analysed

GEOTLCOV23048AA-AG
23/01/2007

TABLE LR1
SUMMARY OF LABORATORY RESULTS
All results in mg/kg unless otherwise stated

Sample Location	THRESHOLD							BH09	BH10	BH11	BH11	BH12	BH12	BH13	BH13
Depth	CONCENTRATION	WASTE CLASSIFICATION CRITERIA						0.5-0.7	0.5-0.95	0.0-0.05	0.2-0.6	0.05-0.1	0.3-0.6	0.1-0.2	0.3-0.7
Date of Sampling	Commercial	INERT		SOLID		INDUSTRIAL		11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06	11-Aug-06
Geological Origin								Fill	Residual	Fill	Fill	Fill	Fill	Fill	Residual
HEAVY METALS															
Arsenic	500 [1]	500	[6]	500	[8]	2000	[10]	12	10	5	10	13	10	8	10
Cadmium	100 [1]	100	[6]	100	[8]	400	[10]	<1	<1	<1	<1	<1	<1	<1	<1
Chromium		1900	[6]	1900	[8]	7600	[10]	19	22	10	28	29	29	24	25
Copper	5000 [1]							13	10	22	11	10	8	9	11
Lead	1500 [1]	1500	[6]	1500	[8]	6000	[10]	14	14	24	25	41	19	20	16
Mercury	75 [1]	50	[6]	50	[8]	200	[10]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	3000 [1]	1050	[6]	1050	[8]	4200	[10]	8	<2	8	4	4	<2	3	<2
Zinc	1500 [1]							9	<5	49	7	34	7	22	<5
TOTAL PETROLEUM HYDROCARBONS															
C6 - C9 Fraction	65 [2]	650	[6]	650	[8]	2600	[10]	<2	<2	<2	<2	<2	<2	<2	<2
C10 - C14 Fraction								<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction								<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction								<100	<100	<100	<100	<100	<100	<100	<100
Total C10-C36	1000 [2]	5000	[6]	10000	[8]	40000	[10]	<252	<252	<252	<252	<252	<252	<252	<252
BTEX															
Benzene	1 [2]	1	[3]	10	[4]	40	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	130 [2]	28.8	[3]	288	[4]	1152	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	50 [2]	60	[3]	600	[4]	2400	[5]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Xylene	25 [2]	100	[3]	1000	[4]	4000	[5]	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
POLY AROMATIC HYDROCARBONS (PAH)															
Naphthalene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene								<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
Anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene								<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
Pyrene								<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
Benzo(a)anthracene								<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
Chrysene								<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5
Benzo(b)fluoranthene								<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5
Benzo(k)fluoranthene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	5 [1]	1	[6]	10	[8]	23	[10]	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene								<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
Dibenzo(a,h)anthracene								<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene								<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
Total PAH	100 [1]	200	[6]	200	[8]	800	[10]	ND	ND	ND	ND	9.3	ND	ND	ND
POLYCHLORINATED BIPHENYLS (PCB)															
Total PCBs	50 [1]							<0.10	-	-	-	<0.10	-	-	<0.10
ORGANICHLORINE PESTICIDES (OCP)															
ALL OCPs								<0.2	-	-	-	<0.2	-	-	<0.2
ASBESTOS								ND	ND	ND	ND	ND	ND	ND	ND
TCLP - HEAVY METALS (mg/L)															
Arsenic		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	<0.1
Cadmium		0.10	[7]	1.0	[9]	4	[11]	<0.05	-	-	-	-	-	-	<0.05
Chromium		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	<0.1
Copper								<0.1	-	-	-	-	-	-	<0.1
Lead		0.50	[7]	5.0	[9]	20	[11]	<0.1	-	-	-	-	-	-	<0.1
Mercury		0.02	[7]	0.2	[9]	0.8	[11]	<0.0010	-	-	-	-	-	-	<0.0010
Nickel		0.20	[7]	2.0	[9]	8	[11]	<0.1	-	-	-	-	-	-	<0.1
Zinc								<0.1	-	-	-	-	-	-	<0.1
TCLP - POLY AROMATIC HYDROCARBONS (PAH) (ug/L)															
Benzo(a)pyrene		4	[7]	40	[9]	160	[11]	<0.5	-	-	-	-	-	-	<0.5
Other PAHs								<1.0	-	-	-	-	-	-	<1.0

Notes:

Concentration exceeds the commercial based threshold concent
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[1] Based on the Health Based Soil Investigation Level in Column 4
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[10] Based on the Industrial Waste Criteria (SCC3) in Table A4 of NS
[11] Based on the Industrial Waste Criteria (TCLP3) in Table A4 of NS
ND Not Detected
- Not Analysed

Appendix A

Title Search

ADVANCE LEGAL SEARCH PTY LIMITED

(ACN 077 067 068)
ABN 49 077 067 068

P. O. Box 149
Yagoona NSW 2199

Telephone: +612 9754 1590
Mobile: 0412 169 809
Facsimile: +612 9754 1364
Email : alsearch@optusnet.com.au

09 August 2006

Coffey Environments Pty Limited
PO Box 125
North Ryde NSW 1670

Attention: James Dutton

Re: **Cnr Olympic Boulevard & Herb Elliott Ave,**
Homebush Bay
Reference: GEOTLCOV23048AA-AB

Note 1: **Folio Identifier 60/786296**
Note 2: **Folio Identifier 50/1045522**

Note 1:

Current Search

Lot 60 DP 786296 (plan attached)
Folio Identifier 60/786296 (attached)
Dated 09 August 2006
Registered Proprietor:
SYDNEY OLYMPIC PARK AUTHORITY

Title Tree
Lot 60 DP 786296

Folio Identifier 60/786296

Folio Identifier 55/749222

Folio Identifier 53/747909

Folio Identifier 5/740790

Certificate of Title Volume 6129 Folio 216

Certificate of Title Volume 5326 Folio 143

Certificate of Title Volume 5056 Folio 217

Certificate of Title Volume 4553 Folio 104

Certificate of Title Volume 2106 Folio 53

*****

Summary of Proprietor(s)
Lot 60 DP 786296

Year	Proprietor
	(Lot 60 DP 786296)
2002 – todate	Sydney Olympic Park Authority
1993 -2002	Olympic Co-Ordination Authority
1988 – 1993	Homebush Abattoir Corporation
	(Lot 55 DP 749222)
1987 – 1988	Homebush Abattoir Corporation
	(Lot 5 DP 740790)
1987 – 1987	Homebush Abattoir Corporation
	(Land in DP 977076- CT Vol 6129 Fol 216)
1987 – 1987	Homebush Abattoir Corporation
1950 – 1987	The Metropolitan Meat Industry Board
(1950 – 1987)	*(various Commercial Leases over Parts of Land Held)*
	(Part Portion 238 Parish Concord Area 940 Acres 2 Roods 5 ½ Perches- CT Vol 5326 Fol 143)
1948 – 1950	The Metropolitan Meat Industry Board
1942 – 1948	The Metropolitan Meat Industry Commissioner
(1942 – 1950)	*(Various Commercial Leases over Parts of Land Held)*
	(Part Portion 238 Parish Concord Area 939 acres 1 Rood 31 ¾ Perches- CT Vol 5056 Fol 217)
1939 – 1942	The Metropolitan Meat Industry Commissioner
(1939 – 1942)	*(Various Commercial Leases over Parts of Land Held)*
	(Part Portion 238 Parish Concord Area 1031 Acres 1 Rood 10 ¼ perches- CT Vol 4553 Fol 104)
1933 – 1939	The Metropolitan Meat Industry Commissioner
1932 – 1933	Metropolitan Meat Industry Board
(1932 – 1939)	*(Various Commercial Leases over Parts of Land Held)*
	(Part Portion 238 Parish Concord Area 1042 Acres- CT Vol 2106 Fol 53)
1929 – 1932	Metropolitan Meat Industry Board
1910 – 1929	The Minister for Public Works of the Shire of New South Wales

*****

Note 2:

Current Search

Lot 50 DP 1045522 (plan attached)
Folio Identifier 50/1045522 (attached)
Dated 09 August 2006
Registered Proprietor:
SYDNEY OLYMPIC PARK AUTHORITY

Title Tree
Lot 50 DP 1045522

Folio Identifier 50/1045522

Certificate of Title Volume 6129 Folio 216

Certificate of Title Volume 5326 Folio 143

Certificate of Title Volume 5056 Folio 217

Certificate of Title Volume 4553 Folio 104

Certificate of Title Volume 2106 Folio 53

*****

Summary of Proprietor(s)
Lot 50 DP 1045522

Year	Proprietor
	(Lot 50 DP 1045522)
2002 – todate	Sydney Olympic Park Authority
	(Land in DP 977076- CT Vol 6129 Fol 216)
2002 – 2002	Sydney Olympic Park Authority
1987 -2002	Homebush Abattoir Corporation
1950 – 1987	The Metropolitan Meat Industry Board
(1950 – 1987)	*(various Commercial Leases over Parts of Land Held)*
	(Part Portion 238 Parish Concord Area 940 Acres 2 Roods 5 ½ Perches- CT Vol 5326 Fol 143)
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1929 – 1932	Metropolitan Meat Industry Board
1910 – 1929	The Minister for Public Works of the Shire of New South Wales

*****

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

Title Search

EziSearch
An Approved LPI *NSW*
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 60/786296

SEARCH DATE	TIME	EDITION NO	DATE
9/8/2006	1:28 PM	4	25/1/2002

LAND

LOT 60 IN DEPOSITED PLAN 786296
AT HOMEBUSH
LOCAL GOVERNMENT AREA: AUBURN
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM: DP786296

FIRST SCHEDULE

SYDNEY OLYMPIC PARK AUTHORITY (AP 8208818)

SECOND SCHEDULE (1 NOTIFICATION)

1. EASEMENT(S) APPURTENANT TO THE LAND ABOVE DESCRIBED CREATED BY:
DP235225 -RIGHT OF WAY

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Homebush Bay ALSP PRINTED ON 9/8/2006

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

Department of Lands
Reliable from the ground up

Cadastral Records Enquiry Report

Ref : Coffey - Homebush Bay

Requested Parcel : Lot 60 DP 786296

Identified Parcel : Lot 60 DP 786296

Locality : HOMEBUSH BAY

LGA : AUBURN

Parish : CONCORD

County : CUMBERLAND

Report Generated 12:13:17 PM, 8 August, 2006

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

PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

SIGNATURE AND SEALS ONLY.

DP 786296 (E)

Registered: 15-12-1988

C.A: Nº 35/88 OF 24·11·1988

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U0052-93#

Last Plan: D.P. 749222

PLAN

OF SUBDIVISION OF LOT 55 IN D.P. 749222

Lengths are in metres. Reduction Ratio 1: 1500

Mun./~~Shire~~ City: AUBURN

Locality: HOMEBUSH

Parish: CONCORD

County: CUMBERLAND

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

I, GEOFFREY HAYWARD LITTLE of HILL & BLUME P/L of 102 CROWN ST. WOOLLOOMOOLOO

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate and has been made in accordance with the Survey Practice Regulations, 1933 and any special requirements of the Department of Lands, and was completed on

1·2·88

Signature

Surveyor registered under Surveyors Act, 1929, as amended.

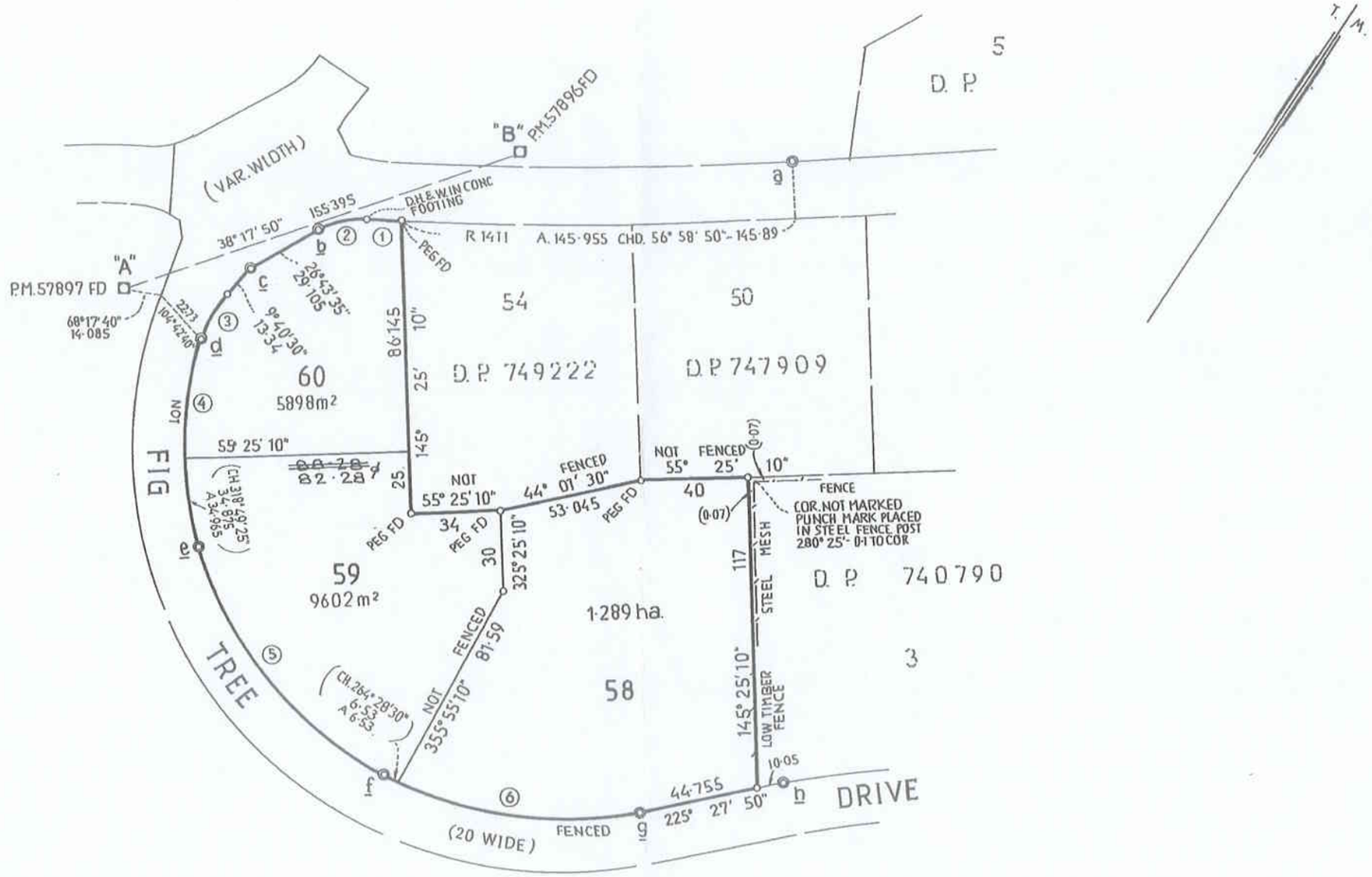
Datum Line of Azimuth. "A"–"B"

#Insert date of survey.

Plans used in preparation of survey/compilation.

D.P. 740790
D.P. 747909
D.P. 749222

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



SCHEDULE OF PERMANENT MARKS
DRILLHOLES & WINGS IN KB'S F.D.

Nº	BEARING	DIST	DIST.
a	324° 01'	4·5	17·5
b	116° 43' 35"	4·6	
c	116° 43' 35"	4·6	
d	104° 42' 40"	7·3	15·4
e	41° 40' 10"	6·4	13·6
f	355° 48' 40"	6·5	13·6
g	315° 27' 50"	6·7	13·3
h	315° 27' 50"	GONE	13·7

SCHEDULE OF CURVED BOUNDARIES

Nº	CHORD		ARC	RAD
1	60° 12' 05"	12·69	12·69	1411
2	43° 35' 35"	17·7	17·955	30·5
3	356° 56' 05"	19·185	19·345	43·5
4	335° 05' 15"	44·325	44·51	140
5	294° 33' 35"	145·965	153·545	140
6	244° 18' 05"	90·41	92·06	140

Crown Lands Office Approval

PLAN APPROVED ..... Authorised Officer

Land District .....

Paper No. .....

Field Book ..... pages .....

Council Clerk's Certificate

I hereby certify that —

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

*(b) the requirements of section 34B of the † Metropolitan Water, Sewerage and Drainage Act, 1924, as amended, † Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed Subdivision (Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. 35/88

Date 24.11.88

(Signature) Council Clerk

Council File No. 210/AUST CENTRE

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.

† Delete if inapplicable.

SURVEYOR'S REFERENCE: 34316 (6) MPD

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

AMENDED IN LPI 28·01·04 VIDE 2004/253. ø PLAN

Req:R424517 /Doc:DP 0786296 P /Rev:24-Feb-2004 /Sts:SC.OK /Prt:09-Aug-2006 13:30 /Pgs:ALL /Seq:1 of 1 /Ref:ALSP /Src:M

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

Title Search

EziSearch
An Approved LPI *NSW*
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 50/1045522

SEARCH DATE	TIME	EDITION NO	DATE
9/8/2006	1:34 PM	2	13/12/2002

LAND

LOT 50 IN DEPOSITED PLAN 1045522
AT HOMEBUSH
LOCAL GOVERNMENT AREA: AUBURN
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM: DP1045522

FIRST SCHEDULE

SYDNEY OLYMPIC PARK AUTHORITY

SECOND SCHEDULE (2 NOTIFICATIONS)

1. RESERVATIONS AND CONDITIONS AS TO PART FORMERLY IN VOL.6129 FOL. 216
2. 483424 512378, 508777 LAND EXCLUDES MINERALS (S.134 PUBLIC WORKS ACT, 1900) AS TO PART FORMERLY IN VOL.6129 FOL.216

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Coffey - Homebush Bay ALSP PRINTED ON 9/8/2006

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PLAN FORM 2

Plan Drawing only to appear in this space

ONLY

SIGNATURES, AND SEALS ONLY

The Seal of the Sydney Olympic Park Authority was affixed to the document in the presence of Brian Newman the Chief Executive Officer, whose signature is evidence of the fact of the affixing of the Common Seal but not as to incur personal liability in the presence of:

Signature of witness

Chief Executive Officer

MARIE EVANS

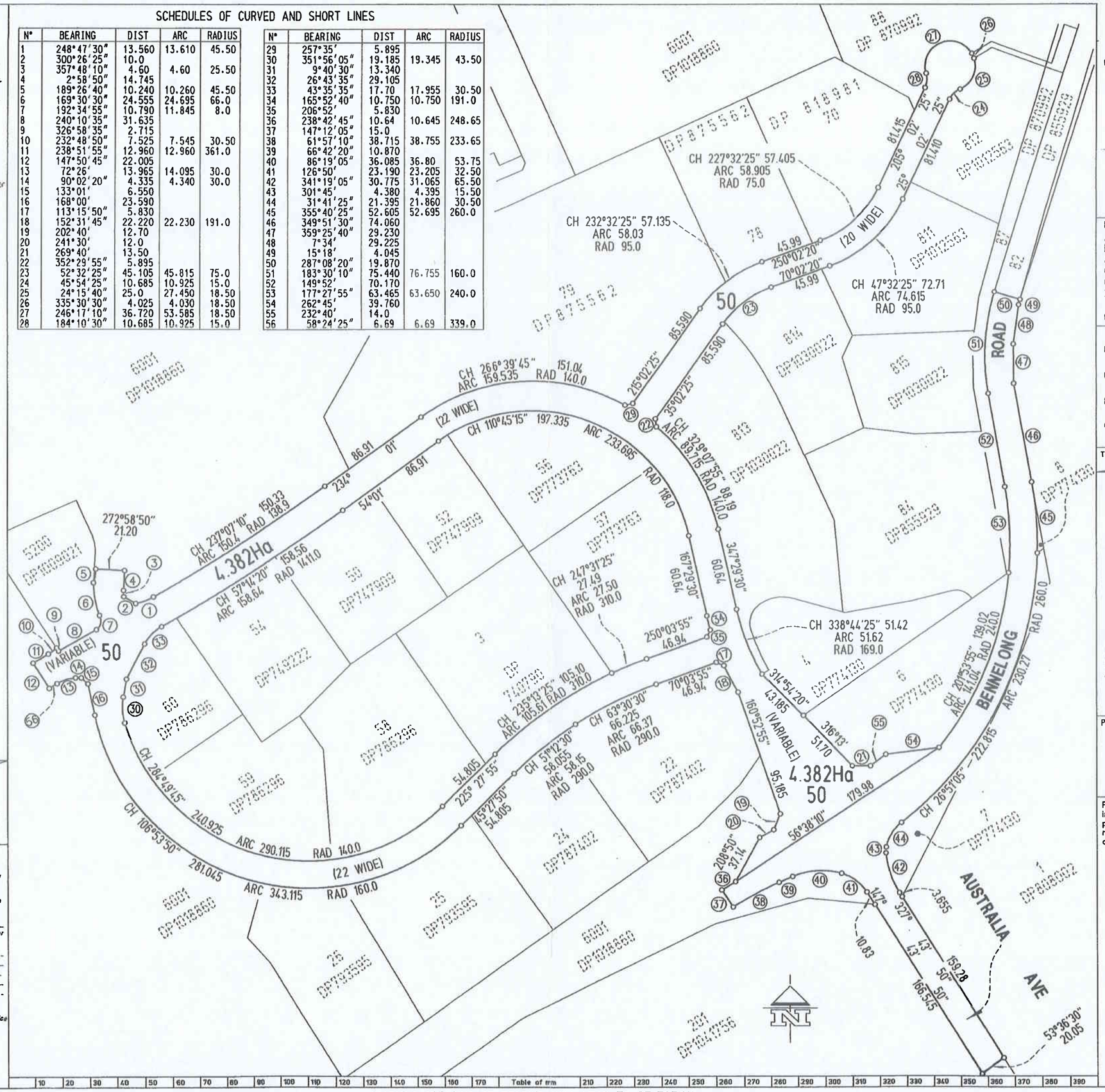
Print Name of Witness

THE SYDNEY OLYMPIC PARK AUTHORITY Common Seal OF NSW GOVERNMENT

SCHEDULES OF CURVED AND SHORT LINES

N°	BEARING	DIST	ARC	RADIUS
1	248°47'30"	13.560	13.610	45.50
2	300°26'25"	10.0		
3	357°48'10"	4.60	4.60	25.50
4	2°58'50"	14.745		
5	189°26'40"	10.240	10.260	45.50
6	169°30'30"	24.555	24.695	66.0
7	192°34'55"	10.790	11.845	8.0
8	240°10'35"	31.635		
9	326°58'35"	2.715		
10	232°48'50"	7.525	7.545	30.50
11	238°51'55"	12.960	12.960	361.0
12	147°50'45"	22.005		
13	72°26'	13.965	14.095	30.0
14	90°02'20"	4.335	4.340	30.0
15	133°01'	6.550		
16	168°00'	23.590		
17	113°15'50"	5.830		
18	152°31'45"	22.220	22.230	191.0
19	202°40'	12.70		
20	241°30'	12.0		
21	269°40'	13.50		
22	352°29'55"	5.895		
23	52°32'25"	45.105	45.815	75.0
24	45°54'25"	10.685	10.925	15.0
25	24°15'40"	25.0	27.450	18.50
26	335°30'30"	4.025	4.030	18.50
27	246°17'10"	36.720	53.585	18.50
28	184°10'30"	10.685	10.925	15.0

N°	BEARING	DIST	ARC	RADIUS
29	257°35'	5.895		
30	351°56'05"	19.185	19.345	43.50
31	9°40'30"	13.340		
32	26°43'35"	29.105		
33	43°35'35"	17.70	17.955	30.50
34	165°52'40"	10.750	10.750	191.0
35	206°52'	5.830		
36	238°42'45"	10.64	10.645	248.65
37	147°12'05"	15.0		
38	61°57'10"	38.715	38.755	233.65
39	66°42'20"	10.870		
40	86°19'05"	36.085	36.80	53.75
41	126°50'	23.190	23.205	32.50
42	341°19'05"	30.775	31.065	65.50
43	301°45'	4.380	4.395	15.50
44	31°41'25"	21.395	21.860	30.50
45	355°40'25"	52.605	52.695	260.0
46	349°51'30"	74.060		
47	359°25'40"	29.230		
48	7°34'	29.225		
49	15°18'	4.045		
50	287°08'20"	19.870		
51	183°30'10"	75.440	76.755	160.0
52	149°52'	70.170		
53	177°27'55"	63.465	63.650	240.0
54	262°45'	39.760		
55	232°40'	14.0		
56	58°24'25"	6.69	6.69	339.0



DP1045522

Registered: 17-10-2002

CA:

Title System: TORRENS

Purpose: ACQUISITION

Ref Map: U0052-93

Last Plan: DP774130, DP787402

PLAN OF
ACQUISITION OF ROADS SHOWN IN DP 818981, DP 774130, DP 740790 & DP 791168 BEING PART OF THE LAND IN CERTIFICATE OF TITLE VOL 6129 FOLIO 216 COMPUTER FOLIO IDENTIFIER 5/774130 & 23/787402

Lengths are in metres. Reduction Ratio 1: 2000

LGA: AUBURN

Locality: HOMEBUSH

Parish: CONCORD

County: CUMBERLAND

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

Surveyors (Practice) Regulation 2001

I, PIERRE HARTZENBERG

of HARD & FORESTER Pty Ltd

a surveyor registered under the Surveyor's Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 2001 and was completed on 22.08.2002

The survey relates to LOT 50 (COMPILED)

(here specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey)

Datum Line :

Zone : Suburban/Geometry (Signature) P. Hartzenberg

Surveyor registered under the Surveyor's Act 1929

Plans used in preparation of ~~survey~~/compilation

DP 818981
DP 774130
DP 740790
DP 791168

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

LOT 50 IS INTENDED TO BE ACQUIRED BY SYDNEY OLYMPIC PARK AUTHORITY.

Crown Lands Office Approval

PLAN APPROVED _____ Authorised Officer

Land District _____

Paper No _____

Field Book _____ pages _____

Subdivision Certificate

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

x (Insert 'subdivision' or 'new road')

x Authorised Person/General Manager/Accredited Certifier

Consent Authority :

Date of endorsement :

Accreditation no :

Subdivision Certificate no :

Delete no :

Note:
When the plan is to be lodged electronically in the Land Titles Office should include a signature in an electronic or digital format approved by the Registrar-General

x Delete if inapplicable.

SURVEYOR'S REFERENCE: s120713 rev A

File 2002m7100(933) Comp MAR PERMANENT

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Req:R273184 /Doc:DP 1045522 P /Rev:18-Oct-2002 /Sts:SC.OK /Prt:03-Nov-2005 17:37 /Pgs:ALL /Seq:1 of 1
Ref:ALSP /Src:M

Licence: 98M111
Edition: 0107

NEW REGISTERED PROPRIETOR

New South Wales
(46) Section 46C Real Property Act 1900
Section 12(4) Trustee Act 1925

8208818K

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

STAMP DUTY

Office of State Revenue use only

??7x???NEW SOUTH WALES DUTY
01-11-2001 0000792554-001
SECTION OTHR LEGN-ORIGINAL
NO DUTY PAYABLE

(A) LAND

Torrens Title - see Annexure A, Annexure B, & Annexure C

(B) REGISTERED DEALING

Number	Torrens Title

(C) LODGED BY

Delivery Box	Name, Address or DX and Telephone	CODE
185H	Clayton Utz Levels 22-35 No.1 O'Connell Street Sydney NSW 2000 DX 370 Tel: 9353 4000 Reference (optional): [redacted]/1674174 Jackson Chow.	AP

(D) APPLICANT

Sydney Olympic Park Authority

(E) PRESENT REG'D PROPRIETOR

Olympic Co-Ordination Authority

(F) NEW REG'D PROPRIETOR

Sydney Olympic Park Authority

(G) APPLICATION UNDER SECTION 46C REAL PROPERTY ACT 1900

In regard to the land/registered dealing specified above, the applicant requests the Registrar General to record the new registered proprietor on the folio of the Register, the land / registered dealing having vested in the new registered proprietor pursuant to-

(H) Sydney Olympic Park Authority Act 2001 that commenced 1 July 2001

~~(G) APPLICATION UNDER SECTION 12(4) TRUSTEE ACT 1925~~

In regard to the land / registered dealing specified above, the applicant requests the Registrar General to record the new registered proprietor on the folio of the Register consequent on-

(I)

DATE ____ / ____ / 2001
dd mm yyyy

SYDNEY OLYMPIC PARK AUTHORITY
THE
Common Seal
NSW GOVERNMENT

(J) I certify that the applicant, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this application in my presence.

Signature of witness:

Name of Witness Donna White
Address of Witness 7 Figtree Dr. Homebush Bay

Certified correct for the purposes of the Real Property Act 1900 by the applicant.

Signature of applicant:

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.

A set of notes on this form (04RP-2) is available from Land and Property Information NSW.

SYD5\122\912288.1

Annexure A

Torrens Title

1.	302/541070	185H	AP
2.	8/735225	185H	DP + AP
3.	3/740790	185H	AP
4.	52/747909	185H	AP
5.	54/749222	185H	AP
6.	57/773763	185H	AP
7.	4/774130	185H	AP
8.	6/774130	185H	AP
9.	7/774130	185H	AP
10.	8/774130	185H	AP
11.	58/786296	185H	AP
12.	59/786296	185H	AP
13.	60/786296	185H	AP
14.	22/787402	185H	AP
15.	24/787402	185H	AP
16.	25/793595	185H	AP
17.	26/793595	185H	AP
18.	70/818981	185H	AP
19.	11/831538	185H	AP
20.	1/840154	185H	AP

DATE _____ / _____ / 2001
dd mm yyyy

I certify that the applicant, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this application in my presence.

Signature of witness:

Name of Witness Donna White
Address of Witness 7 Figtree Dr. Horsebush Bay.

Certified correct for the purposes of the Real Property Act 1900 by the applicant.

Signature of applicant:

SYDNEY OLYMPIC PARK AUTHORITY
THE
COMMON SEAL
OF
NSW GOVERNMENT

Annexure B

Torrens Title

1. 101/849975 185H AP
2. 84/855929
3. 1/859608
4. 3/860205
5. 1/868636
6. 88/870992
7. 78/875562
8. 79/875562
9. 1021/875723

185H AP

10. 1022/875723
11. 1023/875723
12. 1024/875723
13. 1025/875723
14. 2005/878356
15. 2010/878356
16. 3019/879226

185H AP

17. 3020/879226 DP & AP
18. 2/883215
19. 3/883215
20. 4001/1004512

185H AP

DATE _____ / _____ / 2001
dd mm yyyy

I certify that the applicant, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this application in my presence.

Signature of witness:

Name of Witness Donna White
Address of Witness 7 Figtree Dr. Homebush Bay

Certified correct for the purposes of the Real Property Act 1900 by the applicant.

SYDNEY OLYMPIC PARK AUTHORITY
THE
Common Seal
NSW GOVERNMENT

Signature of applicant

Annexure C

Torrens Title

1. 5100/1009020
2. 5101/1009020
3. 5102/1009020
4. 812/1012563
5. 6000/1018860 DP
6. 813/1030022

DATE _____ / _____ / 2001
dd mm yyyy

THE SYDNEY OLYMPIC PARK AUTHORITY Common Seal OF NSW GOVERNMENT

I certify that the applicant, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this application in my presence.

Certified correct for the purposes of the Real Property Act 1900 by the applicant.

Signature of witness:

Signature of applicant:

Name of Witness Dona White
Address of Witness 7 Figtree Dr. Homebush Bay

STATUTORY DECLARATION

I, Jackson Chow, c/o Clayton Utz, 1 O'Connell Street, Sydney, New South Wales, do solemnly and sincerely declare that:

1. I am a Solicitor at Clayton Utz, solicitors.

2. Clayton Utz act for the Sydney Olympic Park Authority (**"SOPA"**) and the Olympic Co-ordination Authority (**"OCA"**) in the transfer of land in accordance with the *Sydney Olympic Park Authority Act 2001* (**"SOPA ACT"**).

3. The SOPA Act commenced on 1 July 2001 and established under that statute, the Sydney Olympic Park Authority.

4. SOPA is now responsible for the long term future management of Sydney Olympic Park, Homebush Bay which includes OCA land in Homebush Bay, Millennium Parklands Bicentennial Park, land formally owned by the State Sports Centre Trust as well as most roads within their respective boundaries.

5. In accordance with the SOPA Act, the land known as Sydney Olympic Park has vested in SOPA.

6. Section 7 of the SOPA Act provides that:

   "the lands comprising Sydney Olympic Park are vested in the Authority for an estate in fee simple, subject to this Part".

   Clause 3(1)(a) of Schedule 8, of the SOPA Act further provides that:

   "the assets of OCA determined by the Director-General of OCA to be assets that relate primarily to the land that is vested in the Authority under section 7 (the transferred assets) vest in the Authority by virtue of this clause and without the need for any further conveyance, transfer, assignment or assurance,".

7. Sydney Olympic Park is defined by reference to Schedule 1 of the SOPA Act which in turn refers to a plan labelled and marked Sydney Olympic Park (**"Plan"**).

8. Following receipt of advice from SOPA and OCA, I have examined the SOPA Act, Schedule 1 and the Plan and to the best of my knowledge, submit that the land titles specified in Annexure 1, 2 and 3 attached to this Statutory Declaration lies within Sydney Olympic Park.

9. I have further examined all original title deeds relating to the titles specified under Annexure 1,2 and 3 attached to this Statutory Declaration and submit that these titles are currently held in the ownership by OCA.

AND I MAKE this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act* 1900.

Made and declared at **Sydney** on this 13th day of December 2001

Before me:

Solicitor

Annexure 1

Torrens Title

1. 302/541070
2. 8/735225
3. 3/740790
4. 52/747909
5. 54/749222
6. 57/773763
7. 4/774130
8. 6/774130
9. 7/774130
10. 8/774130
11. 58/786296
12. 59/786296
13. 60/786296
14. 22/787402
15. 24/787402
16. 25/793595
17. 26/793595
18. 70/818981
19. 11/831538
20. 1/840154

This is the Annexure marked 1 referred to in the Statutory Declaration of Jackson Chow declared on 13 December 2001.

Before me:

.....

Solicitor

Annexure 2

Torrens Title

1. 101/849975
2. 84/855929
3. 1/859608
4. 3/860205
5. 1/868636
6. 88/870992
7. 78/875562
8. 79/875562
9. 1021/875723
10. 1022/875723
11. 1023/875723
12. 1024/875723
13. 1025/875723
14. 2005/878356
15. 2010/878356
16. 3019/879226
17. 3020/879226
18. 2/883215
19. 3/883215
20. 4001/1004512

This is the Annexure marked 2 referred to in the Statutory Declaration of Jackson Chow declared on 13 December 2001.

Before me:

.....

Solicitor

Annexure 3

Torrens Title

1. 5100/1009020
2. 5101/1009020
3. 5102/1009020
4. 812/1012563
5. 6000/1018860
6. 813/1030022

This is the Annexure marked 3 referred to in the Statutory Declaration of Jackson Chow declared on 13 December 2001.

Before me:

.....

Solicitor

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

Historical Search

EziSearch
An Approved LPI *NSW*
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
9/8/2006 1:29PM

FOLIO: 60/786296

First Title(s): OLD SYSTEM
Prior Title(s): 55/749222

Recorded	Number	Type of Instrument	C.T. Issue
22/12/1988	DP786296	DEPOSITED PLAN	FOLIO CREATED EDITION 1
22/9/1993	I378527	REQUEST	
22/9/1993	I356058	REQUEST	
22/9/1993	I378526	APPLICATION	EDITION 2
8/12/1995	O738097	REQUEST	EDITION 3
25/1/2002	8208818	APPLICATION	EDITION 4
2/2/2004	AA22827	REQUEST	

*** END OF SEARCH ***

Coffey - Homebush Bay ALSP PRINTED ON 9/8/2006

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Historical Search

EziSearch
An Approved LPI *NSW*
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
9/8/2006 1:31PM

FOLIO: 55/749222

First Title(s): OLD SYSTEM
Prior Title(s): 53/747909

Recorded	Number	Type of Instrument	C.T. Issue
28/9/1987	DP749222	DEPOSITED PLAN	FOLIO CREATED EDITION 1
27/5/1988	X483077	REQUEST	EDITION 2
16/12/1988	DP786296	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Coffey - Homebush Bay ALSP PRINTED ON 9/8/2006

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Ph. 0297541590 *Fax.* 0297541364

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
9/8/2006 1:32PM

FOLIO: 53/747909

First Title(s): OLD SYSTEM
Prior Title(s): 5/740790

Recorded	Number	Type of Instrument	C.T. Issue
24/7/1987	DP747909	DEPOSITED PLAN	FOLIO CREATED EDITION 1
25/9/1987	DP749222	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Coffey - Homebush Bay ALSP

PRINTED ON 9/8/2006

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

Historical Search

EziSearch
An Approved LPI *NSW*
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
9/8/2006 1:33PM

FOLIO: 5/740790

First Title(s): OLD SYSTEM
Prior Title(s): VOL 6129 FOL 216

Recorded	Number	Type of Instrument	C.T. Issue
13/3/1987	DP740790	DEPOSITED PLAN	FOLIO CREATED EDITION 1
24/7/1987	DP747909	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Req:R426752 /Doc:DP 0740600 P /Rev:08-Aug-1992 /Sts:OK.OK /Prt:09-Aug-2006 16:17 /Pgs:ALL /Seq:1 of 4
Ref:ALSP /Src:M

PLAN FORM 2

Plan Drawing only to appear in this space

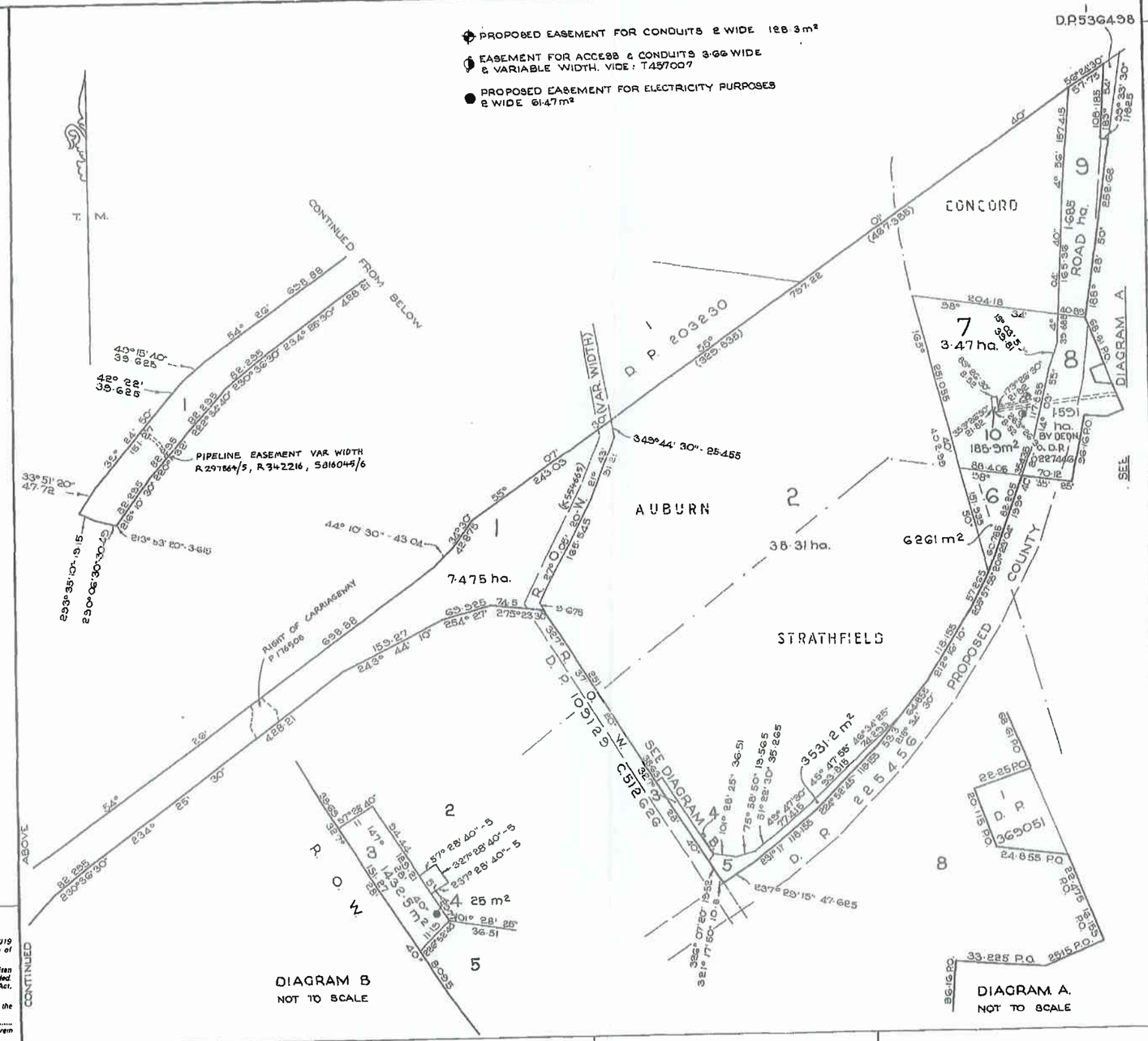
OFFICE USE ONE

Signatures and seals only

PROPOSED EASEMENT FOR CONDUITS 2 WIDE 188.3 m²

EASEMENT FOR ACCESS & CONDUITS 3.66 WIDE & VARIABLE WIDTH. VIDE: T457007

PROPOSED EASEMENT FOR ELECTRICITY PURPOSES 2 WIDE 61.47 m²



D P 740600

Registered: 6-3-1987

C.A.:

Title System: TORRENS & CROWN LAND

Purpose: ACQUISITION - (NOT A CURRENT PLAN AT REGN. - SEC. 327AA L.G. ACT

Ref. Map: U 0045-22*, U 0052-93, 94*

Last Plan: DP 215113, DP 220327, DP 227446, DP 233209, DP 518541

PLAN OF SUBDIVISION OF LAND IN LOTS 2, 4, 5, 6 & 7 D.P. 227446, LOT 2 D.P. 233209, LOT 1 D.P. 220327, PT. LOT 1 D.P. 518541, PT. POR. 118 & LOT 1 D.P. 215113.

Reduction Ratio 1:4000

Lengths are in metres

Mun./~~Shire~~ ~~Bor.~~: STRATHFIELD, AUBURN & CONCORD

Locality: CONCORD WEST

Parish: CONCORD

County: CUMBERLAND

This is sheet 1 of my plan in 4 sheets. (Delete if inapplicable).

I, ALLAN RAYMOND GORDON of PUBLIC WORKS DEPT. SYDNEY a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate and has been made *(1) by me (2) ~~under my supervision or supervision~~ in accordance with the Survey Practice Regulations, 1933, and was completed on † DECEMBER, 1984 & 1986

Signature A.R. Gordon 13.2.87

Surveyor registered under Surveyors Act, 1929, as amended. Datum Line of Azimuth: "X"-"Y" SHEETS 3 & 4

*Strike out either (1) or (2) †Insert date of survey.

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

LOTS 1, 2, 3, 4, 6, 7 AND 10 ARE PROPOSED TO BE ACQUIRED FOR BICENTENNIAL PARK HOMEBUSH BAY.

SEE SHEETS 2, 3 & 4 FOR SURVEY DETAIL

Council Clerk's Certificate

I hereby certify that –

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

*(b) the requirements of section 346 of the †Metropolitan Water, Sewerage and Drainage Act, 1924, as amended. †Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the proposed ..... (Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. .....

Date .....

(Signature) ..... Council Clerk

*This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.

†Delete if inapplicable.

MPD

Table of mm

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYOR'S REFERENCE

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 6th March, 1987

S.B. 31871

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PLAN FORM 3 To be used in conjunction with Plan Form 2

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

• OFFICE USE ONLY

DP 740600

Registered: 6-3-1987

This is sheet 2 of my plan in 4 sheets dated December 1984 & 1986

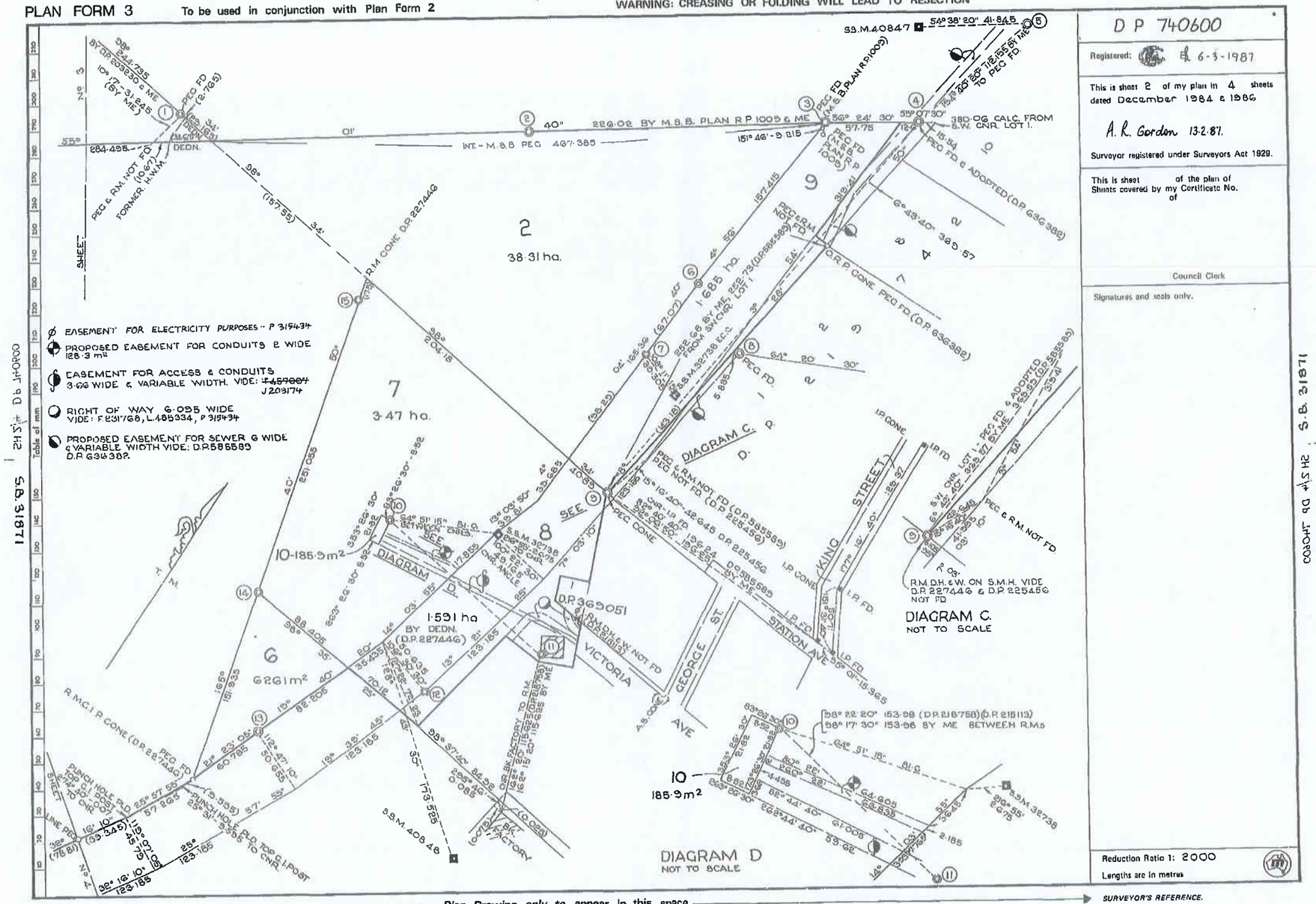
A. R. Gordon 13.2.87.

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Shmts covered by my Certificate No. of

Council Clerk

Signatures and seals only.



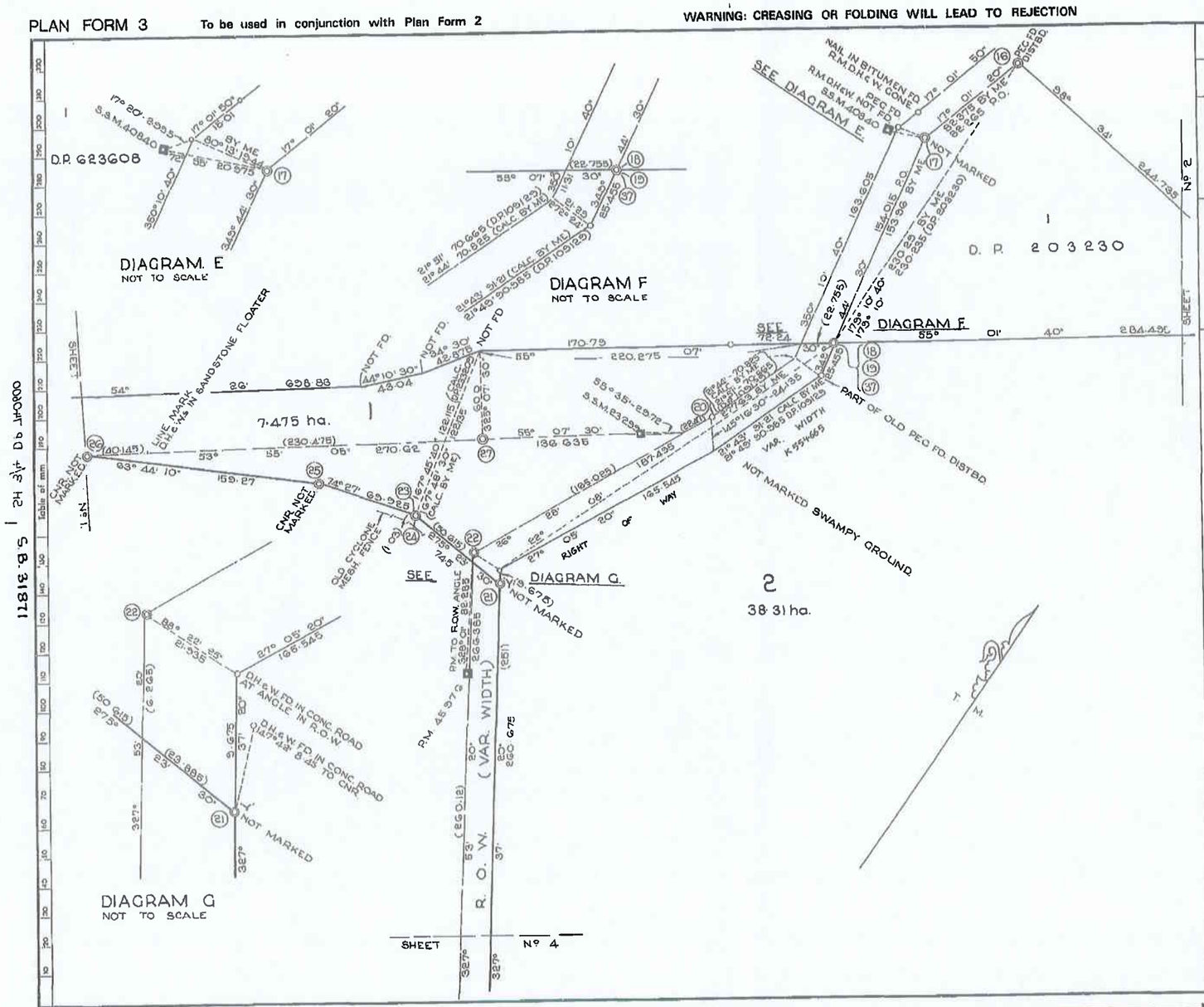
Reduction Ratio 1: 2000

Lengths are in metres

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 6th March, 1987

Req:R426752 /Doc:DP 0740600 P /Rev:08-Aug-1992 /Sts:OK.OK /Prt:09-Aug-2006 16:17 /Pgs:ALL /Seq:2 of 4
Ref:ALSP /Src:M

PLAN FORM 3 To be used in conjunction with Plan Form 2 WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION • OFFICE USE ONLY



Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE.

D P 740600

Registered: 6-3-1987

This is sheet 3 of my plan in 4 sheets dated December 1984 & 1986

A.R. Gordon 13.2.87.

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.

Reduction Ratio 1: 2000

Lengths are in metres

S.B. 31871 | SH 3/4 D P 740600

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 6th March, 1987

Req:R426752 /Doc:DP 0740600 P /Rev:08-Aug-1992 /Sts:OK.OK /Prt:09-Aug-2006 16:17 /Pgs:ALL /Seq:3 of 4
Ref:ALSP /Src:M

PLAN FORM 3 To be used in conjunction with Plan Form 2

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

* OFFICE USE ONLY

D P 740600

Registered: 6-3-1987

This is sheet 4 of my plan in 4 sheets dated December 1984 & 1986

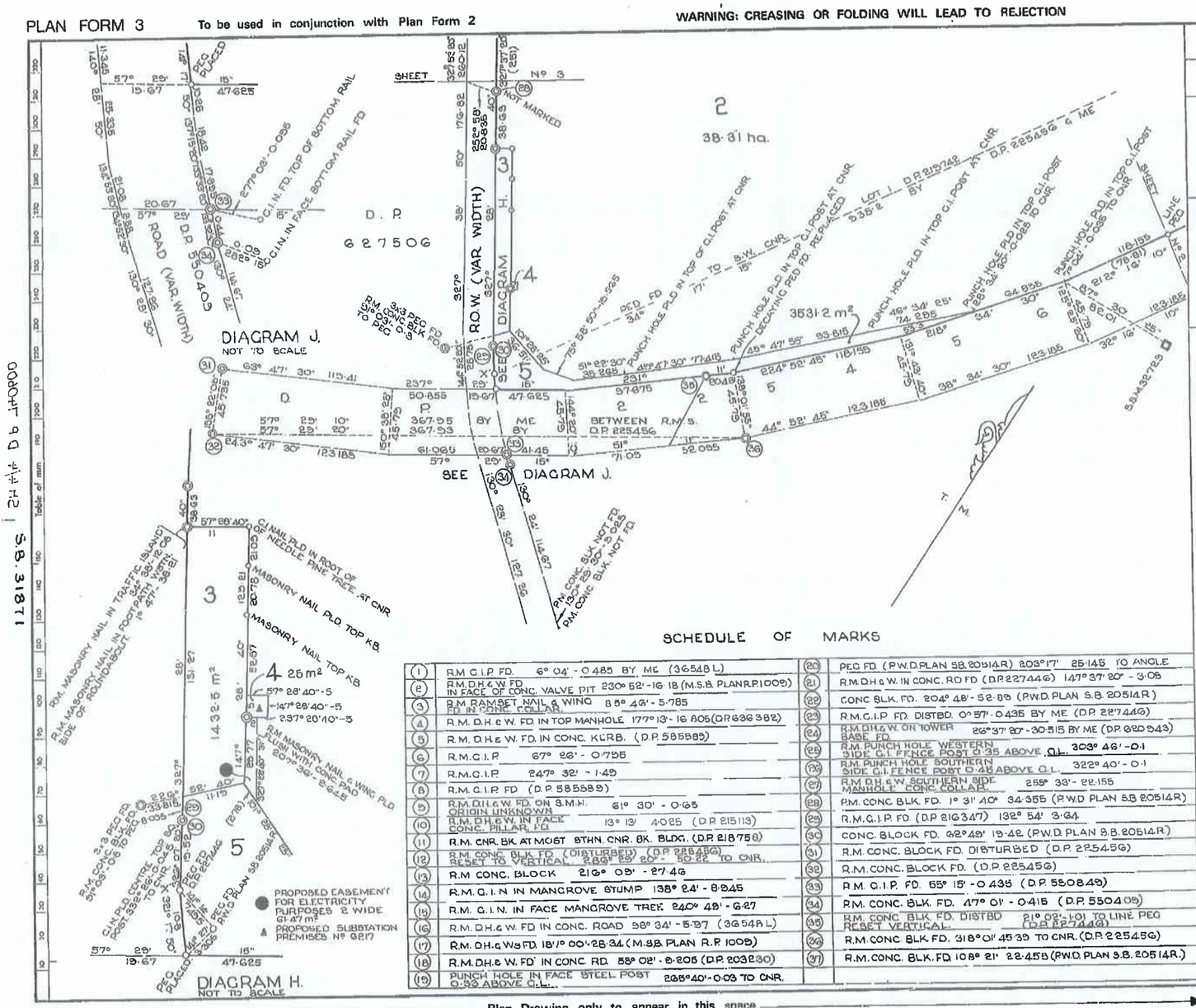
A.R. Gordon. 13-2-87

Surveyor registered under Surveyors Act 1929.

This is sheet of the plan of Sheets covered by my Certificate No. of

Council Clerk

Signatures and seals only.



SCHEDULE OF MARKS

(1)	R.M. C.I.P. FD. 6° 04' - 0.485 BY ME (3G548 L)	(20)	PEG FD. (P.W.D. PLAN S.B. 20514R) 203° 17' 25.145 TO ANGLE
(2)	R.M. D.H. & W. FD IN FACE OF CONC. VALVE PIT 230° 52' - 16.18 (M.S.B. PLAN R.P. 1009)	(21)	R.M. D.H. & W. IN CONC. RD FD (D.P. 227446) 147° 37' 20" - 3.05
(3)	R.M. RAMSET NAIL & WING FD IN CONC. COLLAR. 85° 46' - 5.785	(22)	CONC. BLK. FD. 204° 48' - 52.89 (P.W.D. PLAN S.B. 20514R)
(4)	R.M. D.H. & W. FD IN TOP MANHOLE 177° 13' - 16.805 (D.P. 636382)	(23)	R.M. C.I.P. FD. DISTBD. 0° 57' - 0.435 BY ME (D.P. 227446)
(5)	R.M. D.H. & W. FD. IN CONC. KERB. (D.P. 585589)	(24)	R.M. D.H. & W. ON TOWER BASE FD. 26° 37' 20" - 30.515 BY ME (D.P. 620543)
(6)	R.M. C.I.P. 67° 26' - 0.795	(25)	R.M. PUNCH HOLE WESTERN SIDE G.I. FENCE POST 0.35 ABOVE G.L. 303° 46' - 0.1
(7)	R.M. C.I.P. 247° 32' - 1.49	(26)	R.M. PUNCH HOLE SOUTHERN SIDE G.I. FENCE POST 0.45 ABOVE G.L. 322° 40' - 0.1
(8)	R.M. C.I.P. FD (D.P. 585589)	(27)	R.M. D.H. & W. SOUTHERN SIDE MANHOLE CONC. COLLAR. 255° 33' - 22.155
(9)	R.M. D.H. & W. FD. ON S.M.H. ORIGIN UNKNOWN 61° 30' - 0.65	(28)	P.M. CONC. BLK. FD. 1° 31' 10" 34.355 (P.W.D. PLAN S.B. 20514R)
(10)	R.M. D.H. & W. IN FACE CONC. PILLAR, FD 13° 13' 4.025 (D.P. 215113)	(29)	R.M. C.I.P. FD (D.P. 216347) 132° 54' 3.64
(11)	R.M. CNR. BK. AT MOST 8THN. CNR. BK. BLDG. (D.P. 218758)	(30)	CONC. BLOCK FD. 92° 49' 19.42 (P.W.D. PLAN S.B. 20514R)
(12)	R.M. CONC. BLK. FD (DISTURBED) (D.P. 225456) RESET TO VERTICAL. 286° 25' 20" - 50.22 TO CNR.	(31)	R.M. CONC. BLOCK FD. DISTURBED (D.P. 225456)
(13)	R.M. CONC. BLOCK 216° 09' - 27.46	(32)	R.M. CONC. BLOCK FD. (D.P. 225456)
(14)	R.M. G.I.N. IN MANGROVE STUMP 138° 24' - 8.945	(33)	R.M. C.I.P. FD. 65° 15' - 0.435 (D.P. 550849)
(15)	R.M. G.I.N. IN FACE MANGROVE TREE 240° 48' - 6.27	(34)	R.M. CONC. BLK. FD. 47° 01' - 0.415 (D.P. 550409)
(16)	R.M. D.H. & W. FD IN CONC. ROAD 98° 34' - 5.97 (3G548 L)	(35)	R.M. CONC. BLK. FD. DISTBD RESET VERTICAL. 21° 02' - 1.01 TO LINE PEG (D.P. 227446)
(17)	R.M. D.H. & W. FD. 18/P 00' - 28.34 (M.S.B. PLAN R.P. 1009)	(36)	R.M. CONC. BLK. FD. 318° 01' 45.35 TO CNR. (D.P. 225456)
(18)	R.M. D.H. & W. FD IN CONC. RD. 58° 02' - 8.205 (D.P. 203230)	(37)	R.M. CONC. BLK. FD. 108° 21' 22.455 (P.W.D. PLAN S.B. 20514R.)
(19)	PUNCH HOLE IN FACE STEEL POST 0.95 ABOVE G.L. 285° 40' - 0.03 TO CNR.		

Reduction Ratio 1: 2000

Lengths are in metres

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE.

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 6th March, 1987

S.B. 31871

Req:R426752 /Doc:DP 0740600 P /Rev:08-Aug-1992 /Sts:OK.OK /Prt:09-Aug-2006 16:17 /Pgs:ALL /Seq:4 of 4
Ref:ALSP /Src:M

Appendix B

WorkCover Search Results

WorkCover
NEW SOUTH WALES

Our Ref: D06/057714
Your Ref: GEOTLCOV23048AA

17 August 2006

Attention: Mr James Dutton
Coffey Environments
PO Box 125
NORTH RYDE NSW 1670

Dear Mr Dutton

RE SITE: Cnr Herb Elliot Ave & Olympic Blvd, Homebush

I refer to your search request of 11 August 2006 requesting information on licences to Keep Dangerous Goods for the above site.

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

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

G. Wilm

Gabriela Wilsmore
A/Team Leader
Dangerous Goods

Appendix C

Borehole Logs

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Soil Description Explanation Sheet (1 of 2)

DEFINITION:

In engineering terms soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL & SOIL NAME

Soils are described in accordance with the Unified Soil Classification (UCS) as shown in the table on Sheet 2.

PARTICLE SIZE DESCRIPTIVE TERMS

NAME	SUBDIVISION	SIZE
Boulders		>200 mm
Cobbles		63 mm to 200 mm
Gravel	coarse	20 mm to 63 mm
	medium	6 mm to 20 mm
	fine	2.36 mm to 6 mm
Sand	coarse	600 µm to 2.36 mm
	medium	200 µm to 600 µm
	fine	75 µm to 200 µm

MOISTURE CONDITION

Dry Looks and feels dry. Cohesive and cemented soils are hard, friable or powdery. Uncemented granular soils run freely through hands.

Moist Soil feels cool and darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.

Wet As for moist but with free water forming on hands when handled.

CONSISTENCY OF COHESIVE SOILS

TERM	UNDRAINED STRENGTH s_u (kPa)	FIELD GUIDE
Very Soft	<12	A finger can be pushed well into the soil with little effort.
Soft	12 - 25	A finger can be pushed into the soil to about 25mm depth.
Firm	25 - 50	The soil can be indented about 5mm with the thumb, but not penetrated.
Stiff	50 - 100	The surface of the soil can be indented with the thumb, but not penetrated.
Very Stiff	100 - 200	The surface of the soil can be marked, but not indented with thumb pressure.
Hard	>200	The surface of the soil can be marked only with the thumbnail.
Friable	–	Crumbles or powders when scraped by thumbnail.

DENSITY OF GRANULAR SOILS

TERM	DENSITY INDEX (%)
Very loose	Less than 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	Greater than 85

MINOR COMPONENTS

TERM	ASSESSMENT GUIDE	PROPORTION OF MINOR COMPONENT IN:
Trace of	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component.	Coarse grained soils: <5% Fine grained soils: <15%
With some	Presence easily detected by feel or eye, soil properties little different to general properties of primary component.	Coarse grained soils: 5 - 12% Fine grained soils: 15 - 30%

SOIL STRUCTURE

ZONING		CEMENTING	
Layers	Continuous across exposure or sample.	Weakly cemented	Easily broken up by hand in air or water.
Lenses	Discontinuous layers of lenticular shape.	Moderately cemented	Effort is required to break up the soil by hand in air or water.
Pockets	Irregular inclusions of different material.		

GEOLOGICAL ORIGIN

WEATHERED IN PLACE SOILS

Extremely weathered material	Structure and fabric of parent rock visible.
Residual soil	Structure and fabric of parent rock not visible.

TRANSPORTED SOILS

Aeolian soil	Deposited by wind.
Alluvial soil	Deposited by streams and rivers.
Colluvial soil	Deposited on slopes (transported downslope by gravity).
Fill	Man made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils.
Lacustrine soil	Deposited by lakes.
Marine soil	Deposited in ocean basins, bays, beaches and estuaries.

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Soil Description Explanation Sheet (2 of 2)

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 60 mm and basing fractions on estimated mass)						USC	PRIMARY NAME
COARSE GRAIINED SOILS More than 50% of materials less than 63 mm is larger than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to the naked eye)	GRAVELS More than half of coarse fraction is larger than 2.0 mm	CLEAN GRAVELS (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes.		GW	GRAVEL
				Predominantly one size or a range of sizes with more intermediate sizes missing.		GP	GRAVEL
			GRAVELS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below)		GM	SILTY GRAVEL
				Plastic fines (for identification procedures see CL below)		GC	CLAYEY GRAVEL
		SANDS More than half of coarse fraction is smaller than 2.0 mm	CLEAN SANDS (Little or no fines)	Wide range in grain sizes and substantial amounts of all intermediate sizes missing		SW	SAND
				Predominantly one size or a range of sizes with some intermediate sizes missing.		SP	SAND
			SANDS WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below).		SM	SILTY SAND
				Plastic fines (for identification procedures see CL below).		SC	CLAYEY SAND
FINE GRAINED SOILS More than 50% of material less than 63 mm is smaller than 0.075 mm			IDENTIFICATION PROCEDURES ON FRACTIONS <0.2 mm.				
		SILTS & CLAYS Liquid limit less than 50	**DRY STRENGTH**	**DILATANCY**	**TOUGHNESS**		
			None to Low	Quick to slow	None	ML	SILT
			Medium to High	None	Medium	CL	CLAY
			Low to medium	Slow to very slow	Low	OL	ORGANIC SILT
		SILTS & CLAYS Liquid limit greater than 50	Low to medium	Slow to very slow	Low to medium	MH	SILT
			High	None	High	CH	CLAY
			Medium to High	None	Low to medium	OH	ORGANIC CLAY
HIGHLY ORGANIC SOILS			Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

• Low plasticity – Liquid Limit W_L less than 35%. • Modium plasticity – W_L between 35% and 50%.

COMMON DEFECTS IN SOIL

TERM	DEFINITION	DIAGRAM
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (eg bedding). May be open or closed.	
JOINT	A surface or crack across which the soil has little or no tensile strength but which is not parallel or sub parallel to layering. May be open or closed. The term 'fissure' may be used for irregular joints <0.2 m in length.	
SHEARED ZONE	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting joints which divide the mass into lenticular or wedge shaped blocks.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.	

TERM	DEFINITION	DIAGRAM
SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter	
TUBE CAST	Roughly cylindrical elongated body of soil different from the soil mass in which it occurs. In some cases the soil which makes up the tube cast is cemented.	
INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open joints.	

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Rock Description Explanation Sheet (1 of 2)

The descriptive terms used by Coffey are given below. They are broadly consistent with Australian Standard AS1726-1993.

DEFINITIONS: Rock substance, defect and mass are defined as follows:

Rock Substance	In engineering terms roch substance is any naturally occurring aggregate of minerals and organic material which cannot be disintegrated or remoulded by hand in air or water. Other material is described using soil descriptive terms. Effectively homogenous material, may be isotropic or anisotropic.
Defect	Discontinuity or break in the continuity of a substance or substances.
Mass	Any body of material which is not effectively homogeneous. It can consist of two or more substances without defects, or one or more substances with one or more defects.

SUBSTANCE DESCRIPTIVE TERMS:

ROCK NAME	Simple rock names are used rather than precise geological classification.
PARTICLE SIZE	Grain size terms for sandstone are:
Coarse grained	Mainly 0.6mm to 2mm
Medium grained	Mainly 0.2mm to 0.6mm
Fine grained	Mainly 0.06mm (just visible) to 0.2mm
FABRIC	Terms for layering of penetrative fabric (eg. bedding, cleavage etc.) are:
Massive	No layering or penetrative fabric.
Indistinct	Layering or fabric just visible. Little effect on properties.
Distinct	Layering or fabric is easily visible. Rock breaks more easily parallel to layering of fabric.

CLASSIFICATION OF WEATHERING PRODUCTS

Term	Abbreviation	Definition
Residual Soil	**RS**	Soil derived from the weathering of rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely Weathered Material	**XW**	Material is weathered to such an extent that it has soil properties, ie, it either disintegrates or can be remoulded in water. Original rock fabric still visible.
Highly Weathered Rock	**HW**	Rock strength is changed by weathering. The whole of the rock substance is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Some minerals are decomposed to clay minerals. Porosity may be increased by leaching or may be decreased due to the deposition of minerals in pores.
Moderately Weathered Rock	**MW**	The whole of the rock substance is discoloured, usually by iron staining or bleaching , to the extent that the colour of the fresh rock is no longer recognisable.
Slightly Weathered Rock	**SW**	Rock substance affected by weathering to the extent that partial staining or partial discolouration of the rock substance (usually by limonite) has taken place. The colour and texture of the fresh rock is recognisable; strength properties are essentially those of the fresh rock substance.
Fresh Rock	**FR**	Rock substance unaffected by weathering.

Notes on Weathering:

1. AS1726 suggests the term "Distinctly Weathered" (DW) to cover the range of substance weathering conditions between XW and SW. For projects where it is not practical to delineate between HW and MW or it is judged that there is no advantage in making such a distinction. DW may be used with the definition given in AS1726.
2. Where physical and chemical changes were caused by hot gasses and liquids associated with igneous rocks, the term "altered" may be substituted for "weathering" to give the abbreviations XA, HA, MA, SA and DA.

ROCK SUBSTANCE STRENGTH TERMS

Term	Abbrev-iation	Point Load Index, $I_{S}50$ (MPa)	Field Guide
Very Low	**VL**	Less than 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with a knife; pieces up to 30mm thick can be broken by finger pressure.
Low	**L**	0.1 to 0.3	Easily scored with a knife; indentations 1mm to 3mm show with firm bows of a pick point; has a dull sound under hammer. Pieces of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium	**M**	0.3 to 1.0	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High	**H**	1 to 3	A piece of core 150mm long by 50mm can not be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High	**VH**	3 to 10	Hand specimen breaks after more than one blow of a pick; rock rings under hammer.
Extremely High	**EH**	More than 10	Specimen requires many blows with geological pick to break; rock rings under hammer.

Notes on Rock Substance Strength:

1. In anisotropic rocks the field guide to strength applies to the strength perpendicular to the anisotropy. High strength anisotropic rocks may break readily parallel to the planar anisotropy.
2. The term "extremely low" is not used as a rock substance strength term. While the term is used in AS1726-1993, the field guide therein makes it clear that materials in that strength range are soils in engineering terms.
3. The unconfined compressive strength for isotropic rocks (and anisotropic rocks which fall across the planar anisotropy) is typically 10 to 25 times the point load index (Is50). The ratio may vary for different rock types. Lower strength rocks often have lower ratios than higher strength rocks.

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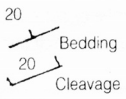
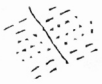
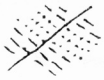
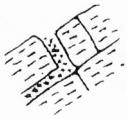
Rock Description Explanation Sheet (2 of 2)

COMMON DEFECTS IN ROCK MASSES

Term	Definition	Diagram	Map Symbol	Graphic Log (Note 1)
Parting	A surface or crack across which the rock has little or no tensile strength. Parallel or sub parallel to layering (eg bedding) or a planar anisotropy in the rock substance (eg, cleavage). May be open or closed.			
Joint	A surface or crack across which the rock has little or no tensile strength. but which is not parallel or sub parallel to layering or planar anisotropy in the rock substance. May be open or closed.			
Sheared Zone (Note 3)	Zone of rock substance with roughly parallel near planar, curved or undulating boundaries cut by closely spaced joints, sheared surfaces or other defects. Some of the defects are usually curved and intersect to divide the mass into lenticular or wedge shaped blocks.			
Sheared Surface (Note 3)	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.			
Crushed Seam (Note 3)	Seam with roughly parallel almost planar boundaries, composed of disoriented, usually angular fragments of the host rock substance which may be more weathered than the host rock. The seam has soil properties.			
Infilled Seam	Seam of soil substance usually with distinct roughly parallel boundaries formed by the migration of soil into an open cavity or joint, infilled seams less than 1mm thick may be described as veneer or coating on joint surface.			
Extremely Weathered Seam	Seam of soil substance, often with gradational boundaries. Formad by weathering of the rock substance in place.			

Notes on Defects:

1. Usually borehole logs show the true dip of defects and face sketches and sections the apparent dip.
2. Partings and joints are not usually shown on the graphic log unless considered significant.
3. Sheared zones, sheared surfaces and crushed seams are faults in geological terms.

DEFECT SHAPE TERMS

Planar	The defect does not vary in orientation
Curved	The defect has a gradual change in orientation
Undulating	The defect has a wavy surface
Stepped	The defect has one or more well defined steps
Irregular	The defect has many sharp changes of orientation

Note: The assessment of defect shape is partly influenced by the scale of the observation.

ROUGHNESS TERMS

Slickensided	Grooved or striated surface, usually polished
Polished	Shiny smooth surface
Smooth	Smooth to touch. Few or no surface irregularities
Rough	Many small surface irregularities (amplitude generally less than 1mm). Feels like fine to coarse sand paper.
Very Rough	Many large surface irregularities (amplitude generally more than 1mm). Feels like, or coarser than very coarse sand paper.

COATING TERMS

Clean	No visible coating
Stained	No visible coating but surfaces are discoloured
Veneer	A visible coating of soil or mineral, too thin to measure; may be patchy
Coating	A visible coating up to 1mm thick. Thicker soil material is usually described using appropriate defect terms (eg, infilled seam). Thicker rock strength material is usually described as a vein.

BLOCK SHAPE TERMS

Blocky	Approximately equidimensional
Tabular	Thickness much less than length or width
Columnar	Height much greate than cross section

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Engineering Log - Borehole

Borehole No.	**BH01**		
Sheet	1 of 1		
Project No:	**GEOTLCOV23048AA**		
Client:	**Bovis Lend Lease**	Date started:	**10.8.2006**
Principal:		Date completed:	**10.8.2006**
Project:	**Proposed Commercial Development**	Logged by:	**JRD**
Borehole Location:	**Cnr Herb Elliott Dr & Olympic Blvd**	Checked by:	**JML**

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV			None Observed	E					**FILL:** ASPHALT	D	VD		FILL
									FILL: GRAVELLY CLAY: Low to medium plasticity, pale brown, gravel is fine to medium with some fine to medium sand				
						0.5							
				E					**SILTY CLAY:** Medium to high plasticity, grey, trace fine sand		VSt	×	RESIDUAL SPT near refusal at 0.6m. Only 0.1m sample recovered.
						1.0							
				SPT >25 N*=R									After 25 blows hammer passed 110mm
						1.5							
				SPT >25 N*=R					**SILTY CLAY**: Medium to high plasticity, brown to orange		St	×	After 25 blows hammer passed 130mm. Crumbled under pp at 160kPa
									SILTY CLAY: Medium to high plasiticy, grey				
						2.0							
				SPT >25 N*=R									After 30 blows hammer refused within first 150mm
									SILTY CLAY: Medium to high plasticity, brown to orange				
									SILTY CLAY: High plasticity, grey, trace fine to medium sand				
									Borehole BH01 terminated at 2.2m				
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix	
e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

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Engineering Log - Borehole

Borehole No.	***BH02***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***10.8.2006***
Principal:		Date completed:	***10.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information / **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed	E					**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY CLAYEY SAND: Medium plasticity, pale brown to pale grey, gravel is fine to medium, some sand fine to medium, possibly bonded with cement				Ground cement odour
						0.5			**SILTY CLAY**: Medium plasticity, pale brown to pale grey, with some fine to medium sand and fine to medium ironstone gravel. Becoming brown to orange toward bottom of layer.				RESIDUAL
				SPT >25 N=R									After 25 blows SPT passed 120mm. No sample recovered.
				E		1.0							
									Borehole BH02 terminated at 1m				
						1.5							
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M mud N nil
C casing

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH03***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***10.8.2006***
Principal:		Date completed:	***10.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed	E					**FILL:** ASPHALT	D			FILL
									FILL: CLAY: Medium to high plasticity, mottled red, brown and grey with some fine sand				
						0.5			**SILTY CLAY**: Medium plasticity, pale grey to grey, with some brown medium to coarse ironstone gravel layers up to 0.1m thick, moderately cemented.				RESIDUAL
				SPT 11,16,16 N*=32									
						1.0							After >25 blows hammer passed 100mm in 3rd 150mm section
				SPT 20,25,<25 N=R							VSt	×	
						1.5			Borehole BH03 terminated at 1.4m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M	mud	N	nil
C	casing		

penetration
1 2 3 4
no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**BH04**		
Sheet	1 of 1		
Project No:	**GEOTLCOV23048AA**		
Client:	**Bovis Lend Lease**	Date started:	**10.8.2006**
Principal:		Date completed:	**10.8.2006**
Project:	**Proposed Commercial Development**	Logged by:	**JRD**
Borehole Location:	**Cnr Herb Elliott Dr & Olympic Blvd**	Checked by:	**JML**

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information / **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetrometer kPa (100 200 300 400)	structure and additional observations
ADT			None Observed	E					**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY SAND: Fine to medium grained sand and gravels	M			Roadbase, loose
						0.5			**FILL:**SILTY CLAY: Medium plasticity, mottled brown, dark brown and red, with some fine to medium sand				
				SPT 3,5,7 N*=12					**SILTY CLAY:** Medium to high plasticity, mottled brown, red and pale grey		VSt	×	RESIDUAL
						1.0					St	×	
				SPT 4,4,6 N*=10					Becoming pale grey to red				
						1.5			**SILTY CLAY**: Medium to high plasticity, pale grey, grey and brown with some brown layers of medium to coarse ironstone gravel		H	600 ×	Possible Extremely Weathered Shale
				E		2.0							
									Borehole BH04 terminated at 2m				
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix	
e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration 1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH05***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV			None Observed	E					**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY SAND: Fine to medium, brown to dark brown, gravel is fine to medium	M			Roadbase
									SILTY CLAY: Medium to high plasticity, dark brown and brown with red mottle. Trace medium to coarse ironstone gravels				RESIDUAL
						0.5							
				E									
						1.0			Predominately pale grey with some organic material			×	
				SPT 3,5,8 N*=13									
						1.5						×	
				SPT 7,>25 N=R					**SHALE**: Extremely weathered, pale grey with some rootlet pockets				SHALE
						2.0			Borehole BH05 terminated at 2m				
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix	
e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**BH06**		
Sheet	1 of 1		
Project No:	**GEOTLCOV23048AA**		
Client:	**Bovis Lend Lease**	Date started:	**11.8.2006**
Principal:		Date completed:	**11.8.2006**
Project:	**Proposed Commercial Development**	Logged by:	**JRD**
Borehole Location:	**Cnr Herb Elliott Dr & Olympic Blvd**	Checked by:	**JML**

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
			None Observed						**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY SAND: Fine to medium, brown to dark brown, gravel is fine to medium				
				E					**SILTY CLAY:** High plasticity, pale brown with red mottle, trace fine sand and fine to medium ironstone gravel	M			RESIDUAL
						0.5							
						1.0							
				SPT >25 N=R					**SILTY CLAY**: Medium to high plasticity, pale gray with some ironstone bonded layers at 1.1m.				After 25 blows hammer passed 120mm
									Becoming pale brown to red in cutttings 1.1 to 1.5m				2 pieces black gravel, possible slag in infill in tip of SPT sampler. Slag not observed in SPT from shallow sample
				E		1.5							
									Borehole BH06 terminated at 1.5m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH07***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV			None Observed	E					**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY SAND: fine to medium, brown, gravel is fine to medium	M			RESIDUAL
				E					**SILTY CLAY:** Medium to high plasticity, brown with red and grey mottle				
						0.5							
						1.0			**SILTY CLAY**: Medium to high plasticity, pale grey to grey				
				SPT >25 N=R									After 25 blows hammer passed 100mm
									Borehole BH07 terminated at 1.3m				
						1.5							
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix	
e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH08***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT			None Observed						**FILL:** ASPHALT	D			FILL
									FILL: GRAVELLY SAND: Fine to medium, brown to dark brown, gravel fine to medium				
				E					**SILTY CLAY:** High plasticity, brown to dark brown with indistinct red mottle. Trace fine to medium sand	M	VSt	600 x	RESIDUAL
						0.5							
									SILTY CLAY: Medium to high plasticity, pale grey to grey with bands brown ironstone up to 0.05m thick				
						1.0							
				E									SPT blows not recorded. Near refusal after 300mm.
						1.5							
									Borehole BH08 terminated at 1.5m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M	mud	N	nil
C	casing		

penetration
1 2 3 4 — no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**BH09**		
Sheet	1 of 1		
Project No:	**GEOTLCOV23048AA**		
Client:	**Bovis Lend Lease**	Date started:	**11.8.2006**
Principal:		Date completed:	**11.8.2006**
Project:	**Proposed Commercial Development**	Logged by:	**JRD**
Borehole Location:	**Cnr Herb Elliott Dr & Olympic Blvd**	Checked by:	**JML**

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information / **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
ADT			None Observed						**FILL**: Woodchip and topsoil	M			FILL
				E					**FILL**: SILTY CLAY: Medium plasticity, brown to dark brown with trace fine to medium sand and fine to medium gravel				
				E					**FILL**: GRAVELLY SAND: Fine to coarse, dark grey to black to green, gravel is fine to coarse				Greenish colour observed on soil
				E		0.5			**FILL**: SILTY CLAY: Medium plasticity, brown to dark brown to grey with some fine to medium ironstone gravel. Trace black fragments and possible brick fragments				
									SILTY CLAY: Medium to high plasticity, brown and grey with red mottle, some fine to medium ironstone gravel				RESIDUAL
				SPT 2,4,8 N=12		1.0						×	
						1.5			Becoming brown / pale grey / red				
				SPT 5,8,10 N*=18					**SHALE**: Extremely weathered shale, high plasticity, pale grey with some pale brown ironstone				SHALE
						2.0							
									Borehole BH09 terminated at 2.2m				
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support
M mud
C casing
N nil

penetration
1 2 3 4
no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH10***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed						**FILL**: Woodchip and topsoil	D			FILL
									FILL: SILT: Brown to dark brown				
						0.5			**SILTY CLAY:** Medium to high plasticity, dark brown and brown with red mottle				RESIDUAL
				E									
						1.0							
									SILTY CLAY: Medium to high plasticity, mottled red, brown and pale grey				
						1.5			**SHALE**: Extremely weathered shale, medium to high plasticity, pale grey with some brown ironstone gravel bands				SHALE
				E									1.5m - SPT blows not recorded near refusal after 150mm
									Borehole BH10 terminated at 1.8m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M	mud	N	nil
C	casing		

penetration
1 2 3 4 — no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH11***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information / **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed	E					**FILL**: Woodchip and topsoil	M			FILL
									FILL: SILTY CLAY: Medium plasticity, pale brown, trace black medium gravel				
				E + DUP2		0.5			**FILL**: SILTY CLAY: Medium to high plasticity, dark brown and brown with red mottle. Trace black fine to medium gravel in top 0.1m				Possible residual
									SILTY CLAY: Medium to high plasticity, pale grey and brown with red mottle				RESIDUAL
				SPT 1,3,5 N*=8		1.0							
						1.5			**SILTY CLAY**: Medium to high plasticity, pale grey with brown ironstone bands				
									Borehole BH11 terminated at 1.6m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M	mud	N	nil
C	casing		

penetration
1 2 3 4 — no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH12***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed	E					**FILL**: Woodchip and topsoil **FILL**: SILT: Dark brown with some fine sand	D			FILL
				E		0.5			**FILL**: SILTY CLAY: Medium plasticity, brown to dark brown and orange mottle				
						1.0			**SILTY CLAY**: Medium to high plasticity, pale grey, pale brown and red mottle, some fine to medium ironstone gravel bands				RESIDUAL
				SPT 8,10,18 N=28		1.5			**SHALE**: Extremely weathered shale, high plasticity, brown and pale grey with some brown ironstone gravels				SHALE
									Borehole BH12 terminated at 1.6m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix	
e.g.	ADT

support

M	mud	N	nil
C	casing		

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

coffey geotechnics

Engineering Log - Borehole

Borehole No.	***BH13***		
Sheet	1 of 1		
Project No:	***GEOTLCOV23048AA***		
Client:	***Bovis Lend Lease***	Date started:	***11.8.2006***
Principal:		Date completed:	***11.8.2006***
Project:	***Proposed Commercial Development***	Logged by:	***JRD***
Borehole Location:	***Cnr Herb Elliott Dr & Olympic Blvd***	Checked by:	***JML***

drill model and mounting:	Edson 300	Easting:	slope:	-90°	R.L. Surface:
hole diameter:	100 mm	Northing	bearing:		datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material (soil type: plasticity or particle characteristics, colour, secondary and minor components.)	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			None Observed						**FILL**: Woodchip and topsoil				FILL
				E					**FILL**: SILTY CLAY: Medium to high plasticity, dark brown and some organic material, and some fine to medium sand and fine to medium gravel				RESIDUAL
				E + DUP3		0.5			**SILTY CLAY**: Medium to high plasticity, mottled brown, red and orange, some fine to medium ironstone gravels Becoming pale grey, brown and red mottled with decreasing ironstone gravel				
						1.0			Increasing ironstone gravel bands up to 0.05m				
				E									SPT near refusal at 1.4m
						1.5			Borehole BH13 terminated at 1.4m				
						2.0							
						2.5							
						3.0							
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support
M mud
C casing
N nil

penetration
1 2 3 4
no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

Appendix D

PID Results

Coffey Geosciences Pty Ltd
ACN 003 335 516

form E5.1 - photoionisation detector results

job no:
GEOTLCOV23048AA

Coffey

client:	Bovis Lend Lease	office:	Lane Cove
principal:		date:	10/8/06
project:	Proposed Commercial Development	by:	JRD
location:	Cnr Herb Elliot Ave & Olympic Blvd	checked by:	JML
PID serial number:	*MINIRAE 2000 (SN: 110-002708)*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 11 am 10/8/06

Calibration gas: 100 ppm ISOBUTYLENE

☑ Zero Calibration (0.0ppm) Actual Reading 0.0 ppm

☑ Span Calibration (100pm) Actual Reading 100 ppm

Calibrated by: James Dutton

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
BH1	0.03-0.10	1	0.0	0.5	0.1	
BH1	0.5-0.6	1	0.0	INSUFFICIENT SAMPLE		
BH1	1.1-1.2	1	0.0	INSUFFICIENT SAMPLE		
BH1	1.5-1.6	1	0.0	INSUFFICIENT SAMPLE		
BH1	2.0-2.2	0	0.0	1.1	0.8	
BH2	0.1-0.2	1	0.0	INSUFFICIENT SAMPLE		
BH2	0.9-1.0	1	0.0	INSUFFICIENT SAMPLE		
BH3	0.05-0.10	1	0.0	0.7	0.3	
BH3	0.5-0.6	1	0.0	0.4	0.1	
BH3	1.0-1.2	1	0.0	0.2	0.1	
BH4	0.05-0.10	1	0.0	0.5	0.0	
BH4	0.5-0.7	1	0.0	0.5	0.1	
BH4	1.1-1.3	1	0.0	0.8	0.5	
BH4	1.6-1.7	1	0.0	1.2	0.9	
BH5	0.05-0.10	1	0.0	0.0	0.0	
BH5	0.5-0.7	1	0.0	0.1	0.0	
BH5	1.0-1.2	1	0.0	0.0	0.0	
BH5	1.6-1.8	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)
HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

Coffey Geosciences Pty Ltd
ACN 003 335 516

form E5.1 - photoionisation detector results

job no:
GEOTLCOV23048AA

sheet 2 of 3

Coffey

client:	Bovis Lend Lease	office:	Lane Cove
principal:		date:	11/8/06
project:	Proposed Commercial Development	by:	JRD
location:	Cnr Herb Elliot Ave & Olympic Blvd	checked by:	JML
PID serial number:	*MINIRAE 2000 (SN: 110-002708)*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 8 am 11/8/06

Calibration gas: 100 ppm ISOBUTYLENE

☑ Zero Calibration (0.0ppm) Actual Reading 0.0 ppm

☑ Span Calibration (100pm) Actual Reading 100 ppm

Calibrated by: James Dutton

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
BH6	0.25-0.4	1	0.0	0.1	0.0	
BH6	1.0-1.1	1	0.0	INSUFFICIENT SAMPLE		
BH6	1.3-1.5	1	0.0	0.5	0.1	
BH7	0.05-0.10	1	0.0	0.2	0.1	
BH7	0.2-0.4	1	0.0	0.1	0.0	
BH7	1.0-1.1	1	0.0	0.0	0.0	
BH8	0.2-0.4	1	0.0	0.0	0.0	
BH8	1.0-1.3	1	0.0	0.0	0.0	
BH9	0.2-0.3	1	0.0	0.2	0.0	
BH9	0.35-0.45	1	0.0	0.3	0.0	
BH9	0.5-0.7	1	0.0	0.2	0.0	
BH9	1.0-1.3	1	0.0	0.1	0.1	
BH9	1.7-1.95	1	0.0	0.5	0.0	
BH10	0.5-0.95	1	0.0	0.3	0.1	
BH10	1.5-1.65	1	0.0	0.0	0.0	
BH11	0-0.05	1	0.0	0.0	0.0	
BH11	0.2-0.6	1	0.0	0.4	0.1	
BH11	1.1-1.3	1	0.0	0.6	0.2	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)
HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

Coffey Geosciences Pty Ltd
ACN 003 335 516

form E5.1 - photoionisation detector results

job no:
GEOTLCOV23048AA

Coffey

client:	Bovis Lend Lease	office:	Lane Cove
principal:		date:	11/8/06
project:	Proposed Commercial Development	by:	JRD
location:	Cnr Herb Elliot Ave & Olympic Blvd	checked by:	JML
PID serial number:	*MINIRAE 2000 (SN: 110-002708)*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 8 am 11/8/06

Calibration gas: 100 ppm ISOBUTYLENE

☑ Zero Calibration (0.0ppm) Actual Reading 0.0 ppm

☑ Span Calibration (100pm) Actual Reading 100 ppm

Calibrated by: James Dutton

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
BH12	0.05-0.10	1	0.0	0.2	0.0	
BH12	0.3-0.6	1	0.0	0.1	0.0	
BH12	1.1-1.3	1	0.0	0.0	0.0	
BH13	0.1-0.2	1	0.0	0.2	0.0	
BH13	0.3-0.7	1	0.0	0.0	0.0	
BH13	1.0-1.4	1	0.0	0.6	0.2	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)
HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

Appendix E

Laboratory Analytical Reports

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET 9386/ 12548 -2 / 1 - 29
Your ref: ES0609856
NATA Accreditation No: 14484

17 August 2006

Australian Laboratory Services Pty. Ltd.
277 Woodpark Road
Smithfield NSW 2164

Attn:Mr Greg Vogel

Dear Greg,

Asbestos Identification
This report presents the results of twenty nine samples, forwarded by Australian Laboratory Services Pty. Ltd on 14 August 2006, for analysis for asbestos.

1.Introduction: Twenty nine samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Safer Environment Method 1.)**

Sample No. 1. ASET 9386 / 12548 / 1. ES0609856 - BH01 - 0.03 - 0.10.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 2. ASET 9386 / 12548 / 2. ES0609856 - BH01 – 1.1 – 1.2.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 3. ASET 9386 / 12548 / 3. ES0609856 - BH02 - 0.1 - 0.2.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 4. ASET 9386 / 12548 / 4. ES0609856 - BH02 - 0.9 – 1.0.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 5. ASET 9386 / 12548 / 5. ES0609856 - BH03 - 0.05 - 0.10.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 6. ASET 9386 / 12548 / 6 . ES0609856 - BH03 - 0.5 - 0.6.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 7. ASET 9386 / 12548 / 7. ES0609856 - BH04 - 0.05 - -.10.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and fragments of bitumen.
No asbestos detected.

Sample No. 8. ASET 9386 / 12548 / 8. ES0609856 - BH04 - 0.5 - 0.7.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 9. ASET 9386 / 12548 / 9. ES0609856 - BH05 - 0.05 - 0.10.
Approx dimensions 5.0 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 10. ASET 9386 / 12548 / 10. ES0609856 - BH05 - 0.5 - 0.7.
Approx dimensions 5.6 cm x 2.5 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 11. ASET 9386 / 12548 / 11. ES0609856 - BH06 - 0.25 - 0.4.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 12. ASET 9386 / 12548 / 12. ES0609856 - BH06 - 1.0 - 1.1.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 13. ASET 9386 / 12548 / 13. ES0609856 - BH07 - 0.05 - 0.10.
Approx dimensions 5.5 cm x 3.0 cm x 1.5 cm
The sample consisted of a mixture of clayish soil, stones and fragments of bitumen.
No asbestos detected.

Sample No. 14. ASET 9386 / 12548 / 14. ES0609856 - BH07 - 0.2 - 0.4.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 15. ASET 9386 / 12548 / 15. ES0609856 - BH08 - 0.2 - 0.4.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 16. ASET 9386 / 12548 / 16. ES0609856 - BH08 – 1.0. – 1.3.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 17. ASET 9386 / 12548 / 17. ES0609856 - BH09 – 0.2 – 0.3.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of brick.
No asbestos detected.

Sample No. 18. ASET 9386 / 12548 / 18. ES0609856 - BH09 – 0.35 – 0.45.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of brick.
No asbestos detected.

Sample No. 19. ASET 9386 / 12548 / 19. ES0609856 - BH09 – 0.5 – 0.7.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of brick.
No asbestos detected.

Sample No. 20. ASET 9386 / 12548 / 20. ES0609856 - BH110 – 0.5 – 0.95.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 21. ASET 9386 / 12548 / 21. ES0609856 - BH11 – 0.0 – 0.05.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 22. ASET 9386 / 12548 / 22. ES0609856 - BH11 - 0.2 - 0.6.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 23. ASET 9386 / 12548 / 23. ES0609856 - BH12 - 0.05 - 0.1.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 24. ASET 9386 / 12548 / 24. ES0609856 - BH12 – 0.3 - 0.6.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of brick.
No asbestos detected.

Sample No. 25. ASET 9386 / 12548 / 25. ES0609856 - BH13 - 0.1 - 0.2.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 26. ASET 9386 / 12548 / 26. ES0609856 - BH13 - 0.3 - 0.7.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 27. ASET 9386 / 12548 / 27. ES0609856 - DUP1.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 28. ASET 9386 / 12548 / 28. ES0609856 - DUP2.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.
No asbestos detected.

Sample No. 29. ASET 9386 / 12548 / 29. ES0609856 - DUP3.
Approx dimensions 5.5 cm x 3.0 cm x 2.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Analysed and reported by,

Karu Jayasundara. BSc (Hons) MAus IMM.
Mineralogist / Chartered Professional of Geology
Approved Signatory.

ALS Environmental

CERTIFICATE OF ANALYSIS

Client	: COFFEY ENVIRONMENTS PTY LTD	*Laboratory*	: ALS Environmental Sydney	*Page*	: 1 of 25
Contact	: MR JOSHUA LASKEY	*Contact*	: Greg Vogel	*Work Order*	: ES0609856
Address	: 8/12 MARS ROAD LANE COVE WEST NSW AUSTRALIA 2066	*Address*	: 277-289 Woodpark Road Smithfield NSW Australia 2164		
E-mail	: joshua_laskey@coffey.com.au	*E-mail*	: Greg.Vogel@alsenviro.com		
Telephone	: 02 9911 1000	*Telephone*	: 61-2-87848555		
Facsimile	: 02 9911 1001	*Facsimile*	: 61-2-87848500		
Project	: GEOTLCOV23048AA	*Quote number*	: ----	*Date received*	: 11 Aug 2006
Order number	: - Not provided -			*Date issued*	: 16 Aug 2006
C-O-C number	: 33186			*No. of samples*	- *Received* : 51
Site	: - Not provided -				*Analysed* : 34

ALSE - Excellence in Analytical Testing

NATA

WORLD RECOGNISED ACCREDITATION

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

Signatory	*Position*	*Department*
Greg Vogel	**Laboratory Manager**	**Inorganics - NATA 825 (10911 - Sydney)**
Greg Vogel	**Laboratory Manager**	**Organics - NATA 825 (10911 - Sydney)**
Rassem Ayoubi	**Senior Organic Chemist**	**Organics - NATA 825 (10911 - Sydney)**
Sarah Millington	**Senior Inorganic Chemist**	**Inorganics - NATA 825 (10911 - Sydney)**

Comments

This report for the ALSE reference ES0609856 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**

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 insuffient sample amount for analysis. Surrogate Recovery Limits are static and based on USEPA SW846 or ALS-QWI/EN38 (in the absence of specified USEPA limits). Where LOR of reported result differ from standard LOR, this may be due to high moisture, reduced sample amount or matrix interference. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number, LOR = Limit of Reporting. * Indicates failed Surrogate Recoveries.

- **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.

Specific comments for Work Order **ES0609856**

Insufficient sample has been provided for ES0609856-018.
Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20 ug/L.
EP075(SIM): LCS recovery for various organic analytes fall outside ALS dynamic control limits, However they are within the acceptance criteria based on USEPA SW-846.

ALS Environmental

Analytical Results

			Client Sample ID :	BH01:0.03-0.10	BH01:1.1-1.2	BH02:0.1-0.2	BH02:0.9-1.0	BH03:0.05-0.10
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-001	ES0609856-002	ES0609856-003	ES0609856-004	ES0609856-005
Analyte	*CAS number*	*LOR*	*Units*					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	8.6	8.6	5.8	5.3	18.1
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	<5	9	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	3	24	12	10
Copper	7440-50-8	5	mg/kg	23	13	162	52	16
Lead	7439-92-1	5	mg/kg	24	7	29	10	18
Nickel	7440-02-0	2	mg/kg	9	<2	28	6	<2
Zinc	7440-66-6	5	mg/kg	27	<5	103	48	12
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	----	----	----	----	<0.10
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	----	<0.05
4.4'-DDE	72-55-9	0.05	mg/kg	----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	----	<0.05
4.4'-DDD	72-54-8	0.05	mg/kg	----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	----	<0.05
4.4'-DDT	50-29-3	0.2	mg/kg	----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	----	<0.2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

			Client Sample ID :	BH01:0.03-0.10	BH01:1.1-1.2	BH02:0.1-0.2	BH02:0.9-1.0	BH03:0.05-0.10
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-001	ES0609856-002	ES0609856-003	ES0609856-004	ES0609856-005
Analyte	*CAS number*	*LOR*	*Units*					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<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	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	102
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	----	----	----	83.8
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	92.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	81.0	83.8	82.5	83.5	82.7
Anthracene-d10	1719-06-8	0.1	%	82.3	85.0	84.1	83.9	84.2
4-Terphenyl-d14	1718-51-0	0.1	%	75.7	81.5	77.3	80.0	78.0

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Analytical Results

			Client Sample ID :	BH01:0.03-0.10	BH01:1.1-1.2	BH02:0.1-0.2	BH02:0.9-1.0	BH03:0.05-0.10
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00
			Laboratory Sample ID :					
Analyte	*CAS number*	*LOR*	*Units*	ES0609856-001	ES0609856-002	ES0609856-003	ES0609856-004	ES0609856-005
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	119	93.1	103	93.5	85.7
Toluene-D8	2037-26-5	0.1	%	112	109	114	105	98.4
4-Bromofluorobenzene	460-00-4	0.1	%	100	105	104	104	99.8

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Analytical Results

			Client Sample ID :	BH03:0.5-0.6	BH04:0.05-0.10	BH04:0.5-0.7	BH05:0.05-0.10	BH05:0.5-0.7
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-006	ES0609856-007	ES0609856-008	ES0609856-009	ES0609856-010
Analyte	*CAS number*	*LOR*	*Units*					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	10.6	9.7	20.8	10.8	20.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	12	<5	16
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	15	28	11	13
Copper	7440-50-8	5	mg/kg	15	23	9	16	13
Lead	7439-92-1	5	mg/kg	8	28	19	45	30
Nickel	7440-02-0	2	mg/kg	<2	11	3	10	<2
Zinc	7440-66-6	5	mg/kg	<5	43	8	57	<5
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.1	<0.1	0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	----	----	----	<0.10	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----
4.4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----
4.4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----
4.4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

				Client Sample ID :	BH03:0.5-0.6	BH04:0.05-0.10	BH04:0.5-0.7	BH05:0.05-0.10	BH05:0.5-0.7
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :	ES0609856-006	ES0609856-007	ES0609856-008	ES0609856-009	ES0609856-010
Analyte	*CAS number*	*LOR*	*Units*						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		2	mg/kg		<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg		<100	<100	<100	<100	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	<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	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	128	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE		0.1	%		----	----	----	80.4	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	----	95.2	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		81.7	82.2	82.7	79.5	81.6
Anthracene-d10	1719-06-8	0.1	%		84.5	84.2	83.8	81.6	83.0
4-Terphenyl-d14	1718-51-0	0.1	%		78.0	77.7	78.9	75.5	78.3

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Analytical Results

				Client Sample ID :	BH03:0.5-0.6	BH04:0.05-0.10	BH04:0.5-0.7	BH05:0.05-0.10	BH05:0.5-0.7
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	10 Aug 2006 15:00	10 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :	ES0609856-006	ES0609856-007	ES0609856-008	ES0609856-009	ES0609856-010
Analyte	*CAS number*	*LOR*	*Units*						
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		92.5	99.0	89.8	105	91.2
Toluene-D8	2037-26-5	0.1	%		106	114	106	115	99.5
4-Bromofluorobenzene	460-00-4	0.1	%		102	102	102	102	103

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Analytical Results

			Client Sample ID :	BH06:0.25-0.4	BH06:1.0-1.1	BH07:0.05-0.10	BH07:0.2-0.4	BH08:0.2-0.4
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-011	ES0609856-012	ES0609856-013	ES0609856-014	ES0609856-015
Analyte	*CAS number*	*LOR*	*Units*					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	22.0	6.9	9.5	17.4	21.2
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	8	9	<5	8	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	5	14	10	26
Copper	7440-50-8	5	mg/kg	10	21	29	13	10
Lead	7439-92-1	5	mg/kg	13	18	35	42	22
Nickel	7440-02-0	2	mg/kg	<2	4	11	<2	3
Zinc	7440-66-6	5	mg/kg	<5	18	47	<5	8
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	<0.10	----	<0.10	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	----
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

				Client Sample ID :	BH06:0.25-0.4	BH06:1.0-1.1	BH07:0.05-0.10	BH07:0.2-0.4	BH08:0.2-0.4
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :	ES0609856-011	ES0609856-012	ES0609856-013	ES0609856-014	ES0609856-015
Analyte	*CAS number*	*LOR*	*Units*						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		2	mg/kg		<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg		<100	<100	<100	<100	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	<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	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		101	----	64.0	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE		0.1	%		91.0	----	83.2	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		101	----	98.3	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		78.8	80.1	82.7	78.9	81.5
Anthracene-d10	1719-06-8	0.1	%		80.2	80.6	84.3	81.4	83.0
4-Terphenyl-d14	1718-51-0	0.1	%		74.9	77.7	77.8	76.0	77.7

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Analytical Results

			Client Sample ID :	BH06:0.25-0.4	BH06:1.0-1.1	BH07:0.05-0.10	BH07:0.2-0.4	BH08:0.2-0.4
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
			Laboratory Sample ID :					
Analyte	*CAS number*	*LOR*	*Units*	ES0609856-011	ES0609856-012	ES0609856-013	ES0609856-014	ES0609856-015
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	89.7	92.2	119	91.4	94.8
Toluene-D8	2037-26-5	0.1	%	101	107	103	106	110
4-Bromofluorobenzene	460-00-4	0.1	%	90.9	106	116	107	111

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Analytical Results

Client Sample ID :				BH08:1.0-1.3	BH09:0.2-0.3	BH09:0.35-0.45	BH09:0.5-0.7	BH10:0.5-0.95
Sample Matrix Type / Description :				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Date / Time :				11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
Laboratory Sample ID :				ES0609856-016	ES0609856-017	ES0609856-018	ES0609856-019	ES0609856-020
Analyte	*CAS number*	*LOR*	*Units*					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	9.6	17.2	6.6	17.3	23.5
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	12	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	4	8	13	19	22
Copper	7440-50-8	5	mg/kg	12	19	59	13	10
Lead	7439-92-1	5	mg/kg	10	14	5	14	14
Nickel	7440-02-0	2	mg/kg	<2	8	160	8	<2
Zinc	7440-66-6	5	mg/kg	5	22	47	9	<5
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	----	----	<0.10	<0.10	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	<0.05	----
4.4'-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	----	----	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	<0.05	<0.05	----
4.4'-DDD	72-54-8	0.05	mg/kg	----	----	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	<0.05	<0.05	----
4.4'-DDT	50-29-3	0.2	mg/kg	----	----	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	<0.2	<0.2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

			Client Sample ID :	BH08:1.0-1.3	BH09:0.2-0.3	BH09:0.35-0.45	BH09:0.5-0.7	BH10:0.5-0.95
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-016	ES0609856-017	ES0609856-018	ES0609856-019	ES0609856-020
Analyte	*CAS number*	*LOR*	*Units*					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<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	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	68.6	70.1	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	----	86.4	83.0	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	104	100	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	79.6	82.5	82.3	80.6	81.9
Anthracene-d10	1719-06-8	0.1	%	81.0	83.9	83.6	81.9	83.9
4-Terphenyl-d14	1718-51-0	0.1	%	75.8	78.7	79.1	77.6	78.8

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Analytical Results

			Client Sample ID :	BH08:1.0-1.3	BH09:0.2-0.3	BH09:0.35-0.45	BH09:0.5-0.7	BH10:0.5-0.95
			Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
			Laboratory Sample ID :	ES0609856-016	ES0609856-017	ES0609856-018	ES0609856-019	ES0609856-020
Analyte	*CAS number*	*LOR*	*Units*					
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	101	91.7	104	99.1	99.9
Toluene-D8	2037-26-5	0.1	%	118	99.2	114	108	110
4-Bromofluorobenzene	460-00-4	0.1	%	110	97.9	98.7	109	99.5

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Analytical Results

				Client Sample ID :	BH11:0.0-0.05	BH11:0.2-0.6	BH12:0.05-0.1	BH12:0.3-0.6	BH13:0.1-0.2
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :	ES0609856-021	ES0609856-022	ES0609856-023	ES0609856-024	ES0609856-025
Analyte	*CAS number*	*LOR*	*Units*						
EA055: Moisture Content									
Moisture Content (dried @ 103°C)		1.0	%		52.5	26.1	14.2	18.6	18.6
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		5	10	13	10	8
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		10	28	29	29	24
Copper	7440-50-8	5	mg/kg		22	11	10	8	9
Lead	7439-92-1	5	mg/kg		24	25	41	19	20
Nickel	7440-02-0	2	mg/kg		8	4	4	<2	3
Zinc	7440-66-6	5	mg/kg		49	7	34	7	22
EG035T: Total Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls		0.10	mg/kg		----	----	<0.10	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		----	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	----	<0.05	----	----
4.4'-DDE	72-55-9	0.05	mg/kg		----	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		----	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	----	<0.05	----	----
4.4'-DDD	72-54-8	0.05	mg/kg		----	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	----	<0.05	----	----
4.4'-DDT	50-29-3	0.2	mg/kg		----	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	----	<0.2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

				Client Sample ID :	BH11:0.0-0.05	BH11:0.2-0.6	BH12:0.05-0.1	BH12:0.3-0.6	BH13:0.1-0.2
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :					
Analyte	*CAS number*	*LOR*	*Units*		ES0609856-021	ES0609856-022	ES0609856-023	ES0609856-024	ES0609856-025
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	0.7	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	1.7	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	1.7	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	0.8	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	0.9	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	1.2	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	1.0	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	0.8	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		2	mg/kg		<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg		<100	<100	<100	<100	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	<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	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	74.0	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE		0.1	%		----	----	83.9	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	102	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		87.8	89.6	87.2	87.2	85.3
Anthracene-d10	1719-06-8	0.1	%		86.6	91.0	91.3	91.0	88.2
4-Terphenyl-d14	1718-51-0	0.1	%		78.3	83.1	90.9	91.3	89.3

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Analytical Results

				Client Sample ID :	BH11:0.0-0.05	BH11:0.2-0.6	BH12:0.05-0.1	BH12:0.3-0.6	BH13:0.1-0.2
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00	11 Aug 2006 15:00
				Laboratory Sample ID :	ES0609856-021	ES0609856-022	ES0609856-023	ES0609856-024	ES0609856-025
Analyte	***CAS number***	***LOR***	***Units***						
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		94.3	109	115	108	103
Toluene-D8	2037-26-5	0.1	%		95.4	99.0	110	104	102
4-Bromofluorobenzene	460-00-4	0.1	%		106	120	120	120	113

ALS Environmental

Analytical Results

Client Sample ID :				BH13:0.3-0.7	DUP1	DUP2	DUP3
Sample Matrix Type / Description :				SOIL	SOIL	SOIL	SOIL
Sample Date / Time :				11 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	(11 Aug 2006) (15:00)
Laboratory Sample ID :				ES0609856-026	ES0609856-027	ES0609856-028	ES0609856-029
Analyte	*CAS number*	*LOR*	*Units*				
EA055: Moisture Content							
Moisture Content (dried @ 103°C)		1.0	%	24.6	17.7	16.5	24.4
EG005T: Total Metals by ICP-AES							
Arsenic	7440-38-2	5	mg/kg	10	8	6	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	25	14	8	14
Copper	7440-50-8	5	mg/kg	11	30	14	9
Lead	7439-92-1	5	mg/kg	16	23	90	16
Nickel	7440-02-0	2	mg/kg	<2	4	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	25	<5	<5
EG035T: Total Mercury by FIMS							
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)							
Total Polychlorinated biphenyls		0.10	mg/kg	<0.10	----	----	----
EP068A: Organochlorine Pesticides (OC)							
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5

ALS Environmental

Analytical Results

				Client Sample ID :	BH13:0.3-0.7	DUP1	DUP2	DUP3
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	11 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	(11 Aug 2006) (15:00)
				Laboratory Sample ID :	ES0609856-026	ES0609856-027	ES0609856-028	ES0609856-029
Analyte	*CAS number*	*LOR*	*Units*					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg		<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg		<50	<50	<50	<50
C15 - C28 Fraction		100	mg/kg		<100	<100	<100	<100
C29 - C36 Fraction		100	mg/kg		<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<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	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%		68.5	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%		93.6	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%		113	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%		86.5	87.8	84.9	86.6
Anthracene-d10	1719-06-8	0.1	%		91.5	92.6	90.3	93.1
4-Terphenyl-d14	1718-51-0	0.1	%		90.3	91.0	88.5	93.3

ALS Environmental

Analytical Results

				Client Sample ID :	BH13:0.3-0.7	DUP1	DUP2	DUP3	
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	
				Sample Date / Time :	11 Aug 2006 15:00	10 Aug 2006 15:00	11 Aug 2006 15:00	(11 Aug 2006) (15:00)	
				Laboratory Sample ID :	ES0609856-026	ES0609856-027	ES0609856-028	ES0609856-029	
Analyte	***CAS number***	***LOR***	***Units***						
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		114	112	103	101	
Toluene-D8	2037-26-5	0.1	%		108	109	114	112	
4-Bromofluorobenzene	460-00-4	0.1	%		120	118	103	102	

ALS Environmental

Analytical Results

			Client Sample ID :	BH01:0.03-0.10	BH07:0.05-0.10	BH09:0.5-0.7	BH13:0.3-0.7
			Sample Matrix Type / Description :	TCLP LEACHATE	TCLP LEACHATE	TCLP LEACHATE	TCLP LEACHATE
			Sample Date / Time :	15 Aug 2006 12:00	15 Aug 2006 12:00	15 Aug 2006 12:00	15 Aug 2006 12:00
			Laboratory Sample ID :	ES0609856-001	ES0609856-013	ES0609856-019	ES0609856-026
Analyte	**CAS number**	**LOR**	**Units**				
EG005C: Leachable Metals by ICPAES							
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	0.1	mg/L	<0.1	0.8	<0.1	<0.1
EG035C: Leachable Mercury by FIMS							
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
EN33: TCLP Leach							
Initial pH		0.1	pH Unit	8.3	10.4	7.8	4.4
After HCl pH		0.1	pH Unit	1.8	5.1	1.6	----
Extraction Fluid Number		1	-	1	2	1	1
Final pH		0.1	pH Unit	5.8	5.1	4.9	4.9
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0
EP075(SIM)S: Phenolic Compound Surrogates							
Phenol-d6	13127-88-3	0.1	%	26.8	26.6	28.8	28.2
2-Chlorophenol-D4	93951-73-6	0.1	%	83.0	83.6	84.9	85.4
2.4.6-Tribromophenol	118-79-6	0.1	%	107	101	105	106
EP075(SIM)T: PAH Surrogates							
2-Fluorobiphenyl	321-60-8	0.1	%	92.5	92.7	96.1	97.3

ALS Environmental

Analytical Results

				Client Sample ID :	BH01:0.03-0.10	BH07:0.05-0.10	BH09:0.5-0.7	BH13:0.3-0.7	
				Sample Matrix Type / Description :	TCLP LEACHATE	TCLP LEACHATE	TCLP LEACHATE	TCLP LEACHATE	
				Sample Date / Time :	15 Aug 2006 12:00	15 Aug 2006 12:00	15 Aug 2006 12:00	15 Aug 2006 12:00	
				Laboratory Sample ID :	ES0609856-001	ES0609856-013	ES0609856-019	ES0609856-026	
Analyte	***CAS number***	***LOR***	***Units***						
EP075(SIM)T: PAH Surrogates									
Anthracene-d10	1719-06-8	0.1	%		94.7	94.4	97.6	96.9	
4-Terphenyl-d14	1718-51-0	0.1	%		94.0	92.2	91.7	88.4	

ALS Environmental

Analytical Results

				Client Sample ID :	TS100806	TB100806	TS110806	TB110806	WB110806
				Sample Matrix Type / Description :	WATER	WATER	WATER	WATER	WATER
				Sample Date / Time :	10 Aug 2006 15:00	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)
				Laboratory Sample ID :	ES0609856-030	ES0609856-031	ES0609856-032	ES0609856-033	ES0609856-034
Analyte	*CAS number*	*LOR*	*Units*						
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	----	----	----	<0.001
Cadmium	7440-43-9	0.0001	mg/L		----	----	----	----	<0.0001
Chromium	7440-47-3	0.001	mg/L		----	----	----	----	<0.001
Copper	7440-50-8	0.001	mg/L		----	----	----	----	<0.001
Lead	7439-92-1	0.001	mg/L		----	----	----	----	<0.001
Nickel	7440-02-0	0.001	mg/L		----	----	----	----	<0.001
Zinc	7440-66-6	0.005	mg/L		----	----	----	----	0.008
EG035T: Total Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	----	----	----	<0.0001
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	----	----	----	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		----	----	----	----	<1.0
Acenaphthene	83-32-9	1.0	µg/L		----	----	----	----	<1.0
Fluorene	86-73-7	1.0	µg/L		----	----	----	----	<1.0
Phenanthrene	85-01-8	1.0	µg/L		----	----	----	----	<1.0
Anthracene	120-12-7	1.0	µg/L		----	----	----	----	<1.0
Fluoranthene	206-44-0	1.0	µg/L		----	----	----	----	<1.0
Pyrene	129-00-0	1.0	µg/L		----	----	----	----	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		----	----	----	----	<1.0
Chrysene	218-01-9	1.0	µg/L		----	----	----	----	<1.0
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		----	----	----	----	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	----	----	----	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	----	----	----	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	----	----	----	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	----	----	----	<1.0
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		20	µg/L		----	----	----	----	<20
C10 - C14 Fraction		50	µg/L		----	----	----	----	<50
C15 - C28 Fraction		100	µg/L		----	----	----	----	<100
C29 - C36 Fraction		50	µg/L		----	----	----	----	<50
EP080: BTEX									
Benzene	71-43-2	1	µg/L		19	<1	17	<1	<1
Toluene	108-88-3	2	µg/L		18	<2	17	<2	<2
Ethylbenzene	100-41-4	2	µg/L		19	<2	16	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		19	<2	16	<2	<2

ALS Environmental

Analytical Results

				Client Sample ID :	TS100806	TB100806	TS110806	TB110806	WB110806
				Sample Matrix Type / Description :	WATER	WATER	WATER	WATER	WATER
				Sample Date / Time :	10 Aug 2006 15:00	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)	(11 Aug 2006) (15:00)
				Laboratory Sample ID :	ES0609856-030	ES0609856-031	ES0609856-032	ES0609856-033	ES0609856-034
Analyte	***CAS number***	***LOR***	***Units***						
EP080: BTEX									
ortho-Xylene	95-47-6	2	µg/L		20	<2	17	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	----	----	----	37.0
2-Chlorophenol-D4	93951-73-6	0.1	%		----	----	----	----	121
2.4.6-Tribromophenol	118-79-6	0.1	%		----	----	----	----	110
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	----	----	98.7
Anthracene-d10	1719-06-8	0.1	%		----	----	----	----	110
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	----	----	122
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		107	102	99.4	83.6	110
Toluene-D8	2037-26-5	0.1	%		102	104	97.9	94.0	108
4-Bromofluorobenzene	460-00-4	0.1	%		103	96.9	97.6	89.0	99.9

ALS Environmental

Surrogate Control Limits

Matrix Type: WATER - Surrogate Control Limits — ***Surrogate Control Limits***

Method name	Analyte name	Lower Limit	Upper Limit
EP075(SIM): PAH/Phenols (GC/MS - SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	Phenol-d6	10	94
	2-Chlorophenol-D4	23	134
	2,4,6-Tribromophenol	10	123
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	43	116
	Anthracene-d10	27	133
	4-Terphenyl-d14	33	141
EP080: TPH Volatiles/BTEX			
EP080S: TPH(V)/BTEX Surrogates	1,2-Dichloroethane-D4	80	120
	Toluene-D8	88	110
	4-Bromofluorobenzene	86	115

Matrix Type: SOIL - Surrogate Control Limits — ***Surrogate Control Limits***

Method name	Analyte name	Lower Limit	Upper Limit
EP066: Polychlorinated Biphenyls (PCB)			
EP066S: PCB Surrogate	Decachlorobiphenyl	10	164
EP068: Pesticides by GCMS			
EP068S: Organochlorine Pesticide Surrogate	Dibromo-DDE	10	136
EP068T: Organophosphorus Pesticide Surrogate	DEF	10	136
EP075(SIM): PAH/Phenols (GC/MS - SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	Phenol-d6	10	94
	2-Chlorophenol-D4	23	134
	2,4,6-Tribromophenol	10	123
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	43	116
	Anthracene-d10	27	133
	4-Terphenyl-d14	33	141
EP075(SIM): PAH/Phenols (SIM)			
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	30	115
	Anthracene-d10	27	133
	4-Terphenyl-d14	18	137
EP080: TPH Volatiles/BTEX			
EP080S: TPH(V)/BTEX Surrogates	1,2-Dichloroethane-D4	80	120
	Toluene-D8	81	117
	4-Bromofluorobenzene	74	121

ALS Environmental

QUALITY CONTROL REPORT

Client	:	**COFFEY ENVIRONMENTS PTY LTD**	**Laboratory**	: ALS Environmental Sydney	**Page**	:	**1 of 26**
Contact	:	MR JOSHUA LASKEY	**Contact**	: Greg Vogel			
Address	:	8/12 MARS ROAD LANE COVE WEST NSW AUSTRALIA 2066	**Address**	: 277-289 Woodpark Road Smithfield NSW Australia 2164	**Work order**	:	**ES0609856**
					Amendment No.	:	
Project	:	GEOTLCOV23048AA	**Quote number**	: ----	**Date received**	:	11 Aug 2006
Order number	:	- Not provided -			**Date issued**	:	16 Aug 2006
C-O-C number	:	33186					
Site	:	- Not provided -					
E-mail	:	joshua_laskey@coffey.com.au	**E-mail**	: Greg.Vogel@alsenviro.com	**No. of samples**		
Telephone	:	02 9911 1000	**Telephone**	: 61-2-87848555	**Received**	:	51
Facsimile	:	02 9911 1001	**Facsimile**	: 61-2-87848500	**Analysed**	:	34

This final report for the ALSE work order reference ES0609856 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

EP075(SIM): LCS recovery for various organic analytes fall outside ALS dynamic control limits, However they are within the acceptance criteria based on USEPA SW-846.
Insufficient sample has been provided for ES0609856-018.
Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20 ug/L.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

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Accredited for compliance with ISO/IED 17025

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

Signatory	Department
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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: 256652)				**%**	**%**	**%**
ES0609798-042	Anonymous	Moisture Content (dried @ 103°C)	1.0 %	30.5	31.6	3.3
ES0609856-001	BH01:0.03-0.10	Moisture Content (dried @ 103°C)	1.0 %	8.6	8.2	4.8
EA055: Moisture Content - (QC Lot: 256653)				**%**	**%**	**%**
ES0609856-012	BH06:1.0-1.1	Moisture Content (dried @ 103°C)	1.0 %	6.9	10.0	36.7
ES0609856-021	BH11:0.0-0.05	Moisture Content (dried @ 103°C)	1.0 %	52.5	54.0	2.8
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 256838)				**mg/kg**	**mg/kg**	**%**
ES0609725-001	Anonymous	Arsenic	5 mg/kg	<5	<5	0.0
		Cadmium	1 mg/kg	<1	<1	0.0
		Chromium	2 mg/kg	8	10	25.3
		Copper	5 mg/kg	26	23	12.8
		Lead	5 mg/kg	<5	5	0.0
		Nickel	2 mg/kg	46	44	6.4
		Zinc	5 mg/kg	23	27	15.7
ES0609856-009	BH05:0.05-0.10	Arsenic	5 mg/kg	<5	<5	0.0
		Cadmium	1 mg/kg	<1	<1	0.0
		Chromium	2 mg/kg	11	13	13.3
		Copper	5 mg/kg	16	16	0.0
		Lead	5 mg/kg	45	44	0.0
		Nickel	2 mg/kg	10	12	16.5
		Zinc	5 mg/kg	57	79	32.8
EG005T: Total Metals by ICP-AES - (QC Lot: 256841)				**mg/kg**	**mg/kg**	**%**
ES0609856-019	BH09:0.5-0.7	Arsenic	5 mg/kg	12	13	13.5
		Cadmium	1 mg/kg	<1	<1	0.0
		Chromium	2 mg/kg	19	21	11.2

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EG005T: Total Metals by ICP-AES - continued						
EG005T: Total Metals by ICP-AES - (QC Lot: 256841) - continued				mg/kg	mg/kg	%
ES0609856-019	BH09:0.5-0.7	Copper	5 mg/kg	13	14	0.0
		Lead	5 mg/kg	14	16	11.1
		Nickel	2 mg/kg	8	8	0.0
		Zinc	5 mg/kg	9	10	0.0
ES0609856-029	DUP3	Arsenic	5 mg/kg	7	7	0.0
		Cadmium	1 mg/kg	<1	<1	0.0
		Chromium	2 mg/kg	14	15	0.0
		Copper	5 mg/kg	9	10	0.0
		Lead	5 mg/kg	16	15	0.0
		Nickel	2 mg/kg	<2	<2	0.0
		Zinc	5 mg/kg	<5	<5	0.0
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 256839)				mg/kg	mg/kg	%
ES0609725-001	Anonymous	Mercury	0.1 mg/kg	<0.1	<0.1	0.0
ES0609856-009	BH05:0.05-0.10	Mercury	0.1 mg/kg	0.1	0.2	0.0
EG035T: Total Mercury by FIMS - (QC Lot: 256840)				mg/kg	mg/kg	%
ES0609856-019	BH09:0.5-0.7	Mercury	0.1 mg/kg	<0.1	<0.1	0.0
ES0609856-029	DUP3	Mercury	0.1 mg/kg	<0.1	<0.1	0.0
EP066: Polychlorinated Biphenyls (PCB)						
EP066: Polychlorinated Biphenyls (PCB) - (QC Lot: 255756)				mg/kg	mg/kg	%
ES0609758-019	Anonymous	Total Polychlorinated biphenyls	0.10 mg/kg	<0.10	<0.10	0.0
EP068A: Organochlorine Pesticides (OC)						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 255757)				mg/kg	mg/kg	%
ES0609758-019	Anonymous	alpha-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		Hexachlorobenzene (HCB)	0.05 mg/kg	<0.05	<0.05	0.0
		beta-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		gamma-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		delta-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		Heptachlor	0.05 mg/kg	<0.05	<0.05	0.0

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EP068A: Organochlorine Pesticides (OC) - continued						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 255757) - continued				mg/kg	mg/kg	%
ES0609758-019	Anonymous	Aldrin	0.05 mg/kg	<0.05	<0.05	0.0
		Heptachlor epoxide	0.05 mg/kg	<0.05	<0.05	0.0
		trans-Chlordane	0.05 mg/kg	<0.05	<0.05	0.0
		alpha-Endosulfan	0.05 mg/kg	<0.05	<0.05	0.0
		cis-Chlordane	0.05 mg/kg	<0.05	<0.05	0.0
		Dieldrin	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDE	0.05 mg/kg	<0.05	<0.05	0.0
		Endrin	0.05 mg/kg	<0.05	<0.05	0.0
		beta-Endosulfan	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDD	0.05 mg/kg	<0.05	<0.05	0.0
		Endrin aldehyde	0.05 mg/kg	<0.05	<0.05	0.0
		Endosulfan sulfate	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDT	0.2 mg/kg	<0.2	<0.2	0.0
		Endrin ketone	0.05 mg/kg	<0.05	<0.05	0.0
		Methoxychlor	0.2 mg/kg	<0.2	<0.2	0.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255764)				mg/kg	mg/kg	%
ES0609856-001	BH01:0.03-0.10	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

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: 255764) - continued				mg/kg	mg/kg	%
ES0609856-001	BH01:0.03-0.10	Benzo(a)pyrene	0.5 mg/kg	<0.5	<0.5	0.0
		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
ES0609856-011	BH06:0.25-0.4	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
		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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255767)				mg/kg	mg/kg	%
ES0609798-046	Anonymous	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

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: 255767) - continued				mg/kg	mg/kg	%
ES0609798-046	Anonymous	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
		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
ES0609856-021	BH11:0.0-0.05	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
		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: 255765)				mg/kg	mg/kg	%
ES0609856-001	BH01:0.03-0.10	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

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EP080/071: Total Petroleum Hydrocarbons - continued						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255765) - continued				mg/kg	mg/kg	%
ES0609856-011	BH06:0.25-0.4	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
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255766)				mg/kg	mg/kg	%
ES0609798-046	Anonymous	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
ES0609856-021	BH11:0.0-0.05	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
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255932)				mg/kg	mg/kg	%
ES0609856-001	BH01:0.03-0.10	C6 - C9 Fraction	2 mg/kg	<2	<2	0.0
ES0609856-013	BH07:0.05-0.10	C6 - C9 Fraction	2 mg/kg	<2	<2	0.0
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 256101)				mg/kg	mg/kg	%
ES0609798-043	Anonymous	C6 - C9 Fraction	2 mg/kg	<2	<2	0.0
ES0609856-023	BH12:0.05-0.1	C6 - C9 Fraction	2 mg/kg	<2	<2	0.0
EP080: BTEX						
EP080: BTEX - (QC Lot: 255932)				mg/kg	mg/kg	%
ES0609856-001	BH01:0.03-0.10	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
ES0609856-013	BH07:0.05-0.10	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
EP080: BTEX - (QC Lot: 256101)				mg/kg	mg/kg	%

Matrix Type: SOIL — *Laboratory Duplicates (DUP) Report*

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EP080: BTEX - continued						
EP080: BTEX - (QC Lot: 256101) - continued				mg/kg	mg/kg	%
ES0609798-043	Anonymous	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	0.4	72.8
		ortho-Xylene	0.2 mg/kg	<0.2	0.4	61.7
ES0609856-023	BH12:0.05-0.1	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

Matrix Type: WATER — *Laboratory Duplicates (DUP) Report*

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EG005C: Leachable Metals by ICPAES						
EG005C: Leachable Metals by ICPAES - (QC Lot: 256882)				mg/L	mg/L	%
ES0609856-001	BH01:0.03-0.10	Arsenic	0.1 mg/L	<0.1	<0.1	0.0
		Cadmium	0.05 mg/L	<0.05	<0.05	0.0
		Chromium	0.1 mg/L	<0.1	<0.1	0.0
		Copper	0.1 mg/L	<0.1	<0.1	0.0
		Lead	0.1 mg/L	<0.1	<0.1	0.0
		Nickel	0.1 mg/L	<0.1	<0.1	0.0
		Zinc	0.1 mg/L	<0.1	<0.1	0.0
EG005C: Leachable Metals by ICPAES - (QC Lot: 256883)				mg/L	mg/L	%
ES0609856-013	BH07:0.05-0.10	Arsenic	0.1 mg/L	<0.1	<0.1	0.0
		Cadmium	0.05 mg/L	<0.05	<0.05	0.0
		Chromium	0.1 mg/L	<0.1	<0.1	0.0
		Copper	0.1 mg/L	<0.1	<0.1	0.0
		Lead	0.1 mg/L	<0.1	<0.1	0.0
		Nickel	0.1 mg/L	<0.1	<0.1	0.0
		Zinc	0.1 mg/L	0.8	0.8	0.0

Matrix Type: WATER

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EG020T: Total Metals by ICP-MS						
EG020T: Total Metals by ICP-MS - (QC Lot: 255725)				mg/L	mg/L	%
ES0609812-006	Anonymous	Arsenic	0.001 mg/L	0.001	<0.001	0.0
		Cadmium	0.0001 mg/L	<0.0001	<0.0001	0.0
		Chromium	0.001 mg/L	<0.001	<0.001	0.0
		Copper	0.001 mg/L	0.003	0.003	0.0
		Lead	0.001 mg/L	<0.001	<0.001	0.0
		Nickel	0.001 mg/L	0.001	0.001	0.0
		Zinc	0.005 mg/L	<0.005	<0.005	0.0
EG035C: Leachable Mercury by FIMS						
EG035C: Leachable Mercury by FIMS - (QC Lot: 257363)				mg/L	mg/L	%
ES0609801-001	Anonymous	Mercury	0.0010 mg/L	<0.0010	<0.0010	0.0
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 256885)				mg/L	mg/L	%
ES0609605-008	Anonymous	Mercury	0.0001 mg/L	<0.0001	<0.0001	0.0
ES0609807-007	Anonymous	Mercury	0.0001 mg/L	<0.0001	<0.0001	0.0
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255954)				µg/L	µg/L	%
ES0609671-001	Anonymous	C6 - C9 Fraction	20 µg/L	<20	<20	0.0
ES0609671-009	Anonymous	C6 - C9 Fraction	20 µg/L	<20	<20	0.0
EP080: BTEX						
EP080: BTEX - (QC Lot: 255954)				µg/L	µg/L	%
ES0609671-001	Anonymous	Benzene	1 µg/L	<1	<1	0.0
		Toluene	2 µg/L	<2	<2	0.0
		Ethylbenzene	2 µg/L	3	3	0.0
		meta- & para-Xylene	2 µg/L	<2	<2	0.0
		ortho-Xylene	2 µg/L	<2	<2	0.0
ES0609671-009	Anonymous	Benzene	1 µg/L	<1	<1	0.0
		Toluene	2 µg/L	<2	<2	0.0
		Ethylbenzene	2 µg/L	<2	<2	0.0
		meta- & para-Xylene	2 µg/L	<2	<2	0.0

Matrix Type: WATER

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	*Client Sample ID*	*Analyte name*	*LOR*	*Original Result*	*Duplicate Result*	*RPD*
EP080: BTEX - continued						
EP080: BTEX - (QC Lot: 255954) - continued				**µg/L**	**µg/L**	**%**
ES0609671-009	Anonymous	ortho-Xylene	2 µg/L	<2	<2	0.0

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*	
			Spike concentration	*Spike Recovery*	*Dynamic Recovery Limits*	
Analyte name	*LOR*			*LCS*	*Low*	*High*
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 256838)		mg/kg	mg/kg	%	%	%
Arsenic	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	13.1	108	86.6	123
Cadmium	1 mg/kg	----	2.76	87.6	79.9	120
	1 mg/kg	<1	----	----	----	----
Chromium	2 mg/kg	----	60.9	104	87.1	119
	2 mg/kg	<2	----	----	----	----
Copper	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	54.7	100	85.2	117
Lead	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	55.2	99.7	82.1	117
Nickel	2 mg/kg	----	54.8	105	88	122
	2 mg/kg	<2	----	----	----	----
Zinc	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	104	90.6	79	116
EG005T: Total Metals by ICP-AES - (QC Lot: 256841)		mg/kg	mg/kg	%	%	%
Arsenic	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	13.1	113	86.6	123
Cadmium	1 mg/kg	<1	----	----	----	----
	1 mg/kg	----	2.76	90.2	79.9	120
Chromium	2 mg/kg	<2	----	----	----	----
	2 mg/kg	----	60.9	107	87.1	119
Copper	5 mg/kg	----	54.7	102	85.2	117
	5 mg/kg	<5	----	----	----	----
Lead	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	55.2	103	82.1	117

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EG005T: Total Metals by ICP-AES - continued						
EG005T: Total Metals by ICP-AES - (QC Lot: 256841) - continued		mg/kg	mg/kg	%	%	%
Nickel	2 mg/kg	<2	----	----	----	----
	2 mg/kg	----	54.8	110	88	122
Zinc	5 mg/kg	<5	----	----	----	----
	5 mg/kg	----	104	93.5	79	116
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 256839)		mg/kg	mg/kg	%	%	%
Mercury	0.1 mg/kg	<0.1	----	----	----	----
	0.1 mg/kg	----	1.4	93.9	73.7	108
EG035T: Total Mercury by FIMS - (QC Lot: 256840)		mg/kg	mg/kg	%	%	%
Mercury	0.1 mg/kg	----	1.4	91.8	73.7	108
	0.1 mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)						
EP066: Polychlorinated Biphenyls (PCB) - (QC Lot: 255756)		mg/kg	mg/kg	%	%	%
Total Polychlorinated biphenyls	0.1 mg/kg	----	0.5	94.2	57.4	117
	0.10 mg/kg	<0.10	----	----	----	----
EP068A: Organochlorine Pesticides (OC)						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 255757)		mg/kg	mg/kg	%	%	%
4,4'-DDD	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	90.6	65.3	116
4,4'-DDE	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	94.2	67.5	114
4,4'-DDT	0.2 mg/kg	----	0.25	98.8	58.4	127
	0.2 mg/kg	<0.2	----	----	----	----
Aldrin	0.05 mg/kg	----	0.25	93.2	67	113
	0.05 mg/kg	<0.05	----	----	----	----
alpha-BHC	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	86.2	60.8	116
alpha-Endosulfan	0.05 mg/kg	----	0.25	91.0	65.8	116
	0.05 mg/kg	<0.05	----	----	----	----

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP068A: Organochlorine Pesticides (OC) - continued						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 255757) - continued		mg/kg	mg/kg	%	%	%
beta-BHC	0.05 mg/kg	----	0.25	87.8	59.8	117
	0.05 mg/kg	<0.05	----	----	----	----
beta-Endosulfan	0.05 mg/kg	----	0.25	96.0	66.1	117
	0.05 mg/kg	<0.05	----	----	----	----
cis-Chlordane	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	85.0	57.3	120
delta-BHC	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	95.4	65.8	114
Dieldrin	0.05 mg/kg	----	0.25	95.4	67.4	116
	0.05 mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	0.05 mg/kg	----	0.25	99.2	63.6	119
	0.05 mg/kg	<0.05	----	----	----	----
Endrin	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	101	63	121
Endrin aldehyde	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	88.2	57.3	115
Endrin ketone	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	94.4	63.6	117
gamma-BHC	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	84.0	59.8	118
Heptachlor	0.05 mg/kg	----	0.25	92.4	65.6	115
	0.05 mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	93.8	65.6	113
Hexachlorobenzene (HCB)	0.05 mg/kg	----	0.25	76.6	59.4	115
	0.05 mg/kg	<0.05	----	----	----	----
Methoxychlor	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	0.25	89.4	50.4	132
trans-Chlordane	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	80.0	60.7	113

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255764)		mg/kg	mg/kg	%	%	%
Acenaphthene	0.5 mg/kg	----	4	93.1	81.5	112
	0.5 mg/kg	<0.5	----	----	----	----
Acenaphthylene	0.5 mg/kg	----	4	93.3	79.6	113
	0.5 mg/kg	<0.5	----	----	----	----
Anthracene	0.5 mg/kg	----	4	95.0	81.1	112
	0.5 mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	95.2	77.2	112
Benzo(a)pyrene	0.5 mg/kg	----	4	118	76.4	113
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	94.7	71.8	118
Benzo(g,h,i)perylene	0.5 mg/kg	----	4	118	72.4	114
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	0.5 mg/kg	----	4	93.2	74.2	117
	0.5 mg/kg	<0.5	----	----	----	----
Chrysene	0.5 mg/kg	----	4	96.1	79.8	114
	0.5 mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	0.5 mg/kg	----	4	116	71.7	113
	0.5 mg/kg	<0.5	----	----	----	----
Fluoranthene	0.5 mg/kg	----	4	92.4	78.8	113
	0.5 mg/kg	<0.5	----	----	----	----
Fluorene	0.5 mg/kg	----	4	92.6	79.9	112
	0.5 mg/kg	<0.5	----	----	----	----
Indeno(1,2,3,cd)pyrene	0.5 mg/kg	----	4	117	71	113
	0.5 mg/kg	<0.5	----	----	----	----
Naphthalene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	94.7	81.9	113
Phenanthrene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	95.4	79.4	114

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255764) - continued		mg/kg	mg/kg	%	%	%
Pyrene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	92.7	78.9	113
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255767)		mg/kg	mg/kg	%	%	%
Acenaphthene	0.5 mg/kg	----	4	88.1	81.5	112
	0.5 mg/kg	<0.5	----	----	----	----
Acenaphthylene	0.5 mg/kg	----	4	88.8	79.6	113
	0.5 mg/kg	<0.5	----	----	----	----
Anthracene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	90.4	81.1	112
Benz(a)anthracene	0.5 mg/kg	----	4	89.3	77.2	112
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	0.5 mg/kg	----	4	82.4	76.4	113
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	0.5 mg/kg	----	4	94.5	71.8	118
	0.5 mg/kg	<0.5	----	----	----	----
Benzo(g,h,i)perylene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	82.9	72.4	114
Benzo(k)fluoranthene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	93.6	74.2	117
Chrysene	0.5 mg/kg	----	4	89.9	79.8	114
	0.5 mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	82.6	71.7	113
Fluoranthene	0.5 mg/kg	----	4	90.4	78.8	113
	0.5 mg/kg	<0.5	----	----	----	----
Fluorene	0.5 mg/kg	----	4	88.1	79.9	112
	0.5 mg/kg	<0.5	----	----	----	----
Indeno(1,2,3,cd)pyrene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	82.0	71	113

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255767) - continued		mg/kg	mg/kg	%	%	%
Naphthalene	0.5 mg/kg	----	4	89.1	81.9	113
	0.5 mg/kg	<0.5	----	----	----	----
Phenanthrene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	89.6	79.4	114
Pyrene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	90.0	78.9	113
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255765)		mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	50 mg/kg	----	200	89.7	75.2	116
	50 mg/kg	<50	----	----	----	----
C15 - C28 Fraction	100 mg/kg	----	200	86.4	75.3	113
	100 mg/kg	<100	----	----	----	----
C29 - C36 Fraction	100 mg/kg	----	200	107	72.6	117
	100 mg/kg	<100	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255766)		mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	50 mg/kg	----	200	90.4	75.2	116
	50 mg/kg	<50	----	----	----	----
C15 - C28 Fraction	100 mg/kg	<100	----	----	----	----
	100 mg/kg	----	200	94.1	75.3	113
C29 - C36 Fraction	100 mg/kg	----	200	104	72.6	117
	100 mg/kg	<100	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255932)		mg/kg	mg/kg	%	%	%
C6 - C9 Fraction	2 mg/kg	<2	----	----	----	----
	2 mg/kg	----	26	83.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 256101)		mg/kg	mg/kg	%	%	%
C6 - C9 Fraction	2 mg/kg	----	26	82.6	68.4	128
	2 mg/kg	<2	----	----	----	----
EP080: BTEX						

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP080: BTEX - continued						
EP080: BTEX - (QC Lot: 255932)		mg/kg	mg/kg	%	%	%
Benzene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	87.4	67.5	125
Ethylbenzene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	79.2	65.3	126
meta- & para-Xylene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	2	75.5	66.5	124
ortho-Xylene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	81.2	66.7	123
Toluene	0.2 mg/kg	----	1	85.3	69	122
	0.2 mg/kg	<0.2	----	----	----	----
EP080: BTEX - (QC Lot: 256101)		mg/kg	mg/kg	%	%	%
Benzene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	84.3	67.5	125
Ethylbenzene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	82.2	65.3	126
meta- & para-Xylene	0.2 mg/kg	----	2	84.6	66.5	124
	0.2 mg/kg	<0.2	----	----	----	----
ortho-Xylene	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	1	84.9	66.7	123
Toluene	0.2 mg/kg	----	1	86.5	69	122
	0.2 mg/kg	<0.2	----	----	----	----

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EG005C: Leachable Metals by ICPAES						
EG005C: Leachable Metals by ICPAES - (QC Lot: 256882)		mg/L	mg/L	%	%	%
Arsenic	0.1 mg/L	----	1	104	75.7	132
	0.1 mg/L	<0.1	----	----	----	----

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EG005C: Leachable Metals by ICPAES - continued						
EG005C: Leachable Metals by ICPAES - (QC Lot: 256882) - continued		mg/L	mg/L	%	%	%
Cadmium	0.05 mg/L	<0.05	----	----	----	----
	0.05 mg/L	----	0.250	105	83.1	123
Chromium	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	102	86.4	122
Copper	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	105	82.9	119
Lead	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	103	79.9	122
Nickel	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	105	85.4	125
Zinc	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	91.1	63.9	125
EG005C: Leachable Metals by ICPAES - (QC Lot: 256883)		mg/L	mg/L	%	%	%
Arsenic	0.1 mg/L	----	1	99.4	75.7	132
	0.1 mg/L	<0.1	----	----	----	----
Cadmium	0.05 mg/L	----	0.250	101	83.1	123
	0.05 mg/L	<0.05	----	----	----	----
Chromium	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	97.5	86.4	122
Copper	0.1 mg/L	----	1	101	82.9	119
	0.1 mg/L	<0.1	----	----	----	----
Lead	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	98.8	79.9	122
Nickel	0.1 mg/L	----	1	100	85.4	125
	0.1 mg/L	<0.1	----	----	----	----
Zinc	0.1 mg/L	<0.1	----	----	----	----
	0.1 mg/L	----	1	83.0	63.9	125
EG020T: Total Metals by ICP-MS						
EG020T: Total Metals by ICP-MS - (QC Lot: 255725)		mg/L	mg/L	%	%	%

Matrix Type: WATER

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

Analyte name	*LOR*	*Method blank result*	*Actual Results*		*Recovery Limits*	
			Spike concentration	*Spike Recovery*	*Dynamic Recovery Limits*	
				LCS	*Low*	*High*
EG020T: Total Metals by ICP-MS - continued						
EG020T: Total Metals by ICP-MS - (QC Lot: 255725) - continued		mg/L	mg/L	%	%	%
Arsenic	0.001 mg/L	----	0.1	105	78.7	111
	0.001 mg/L	<0.001	----	----	----	----
Cadmium	0.0001 mg/L	<0.0001	----	----	----	----
	0.0001 mg/L	----	0.1	87.0	79.3	111
Chromium	0.001 mg/L	<0.001	----	----	----	----
	0.001 mg/L	----	0.1	99.8	83.4	114
Copper	0.001 mg/L	----	0.1	87.8	80.1	118
	0.001 mg/L	<0.001	----	----	----	----
Lead	0.001 mg/L	----	0.1	90.3	83.2	116
	0.001 mg/L	<0.001	----	----	----	----
Nickel	0.001 mg/L	----	0.1	92.0	84.3	115
	0.001 mg/L	<0.001	----	----	----	----
Zinc	0.005 mg/L	<0.005	----	----	----	----
	0.005 mg/L	----	0.1	90.5	77.2	109
EG035C: Leachable Mercury by FIMS						
EG035C: Leachable Mercury by FIMS - (QC Lot: 257363)		mg/L	mg/L	%	%	%
Mercury	0.001 mg/L	----	0.010	101	70	130
	0.0010 mg/L	<0.0010	----	----	----	----
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 256885)		mg/L	mg/L	%	%	%
Mercury	0.0001 mg/L	<0.0001	----	----	----	----
	0.0001 mg/L	----	0.010	108	78.6	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 256635)		µg/L	µg/L	%	%	%
Acenaphthene	0.2 µg/L	----	2	96.3	62.2	113
	0.5 µg/L	<0.5	----	----	----	----
Acenaphthylene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	96.5	63.6	114

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 256635) - continued		µg/L	µg/L	%	%	%
Anthracene	0.2 µg/L	----	2	93.2	64.3	116
	0.5 µg/L	<0.5	----	----	----	----
Benz(a)anthracene	0.2 µg/L	----	2	94.5	64.1	117
	0.5 µg/L	<0.5	----	----	----	----
Benzo(a)pyrene	0.2 µg/L	----	2	83.7	63.3	117
	0.5 µg/L	<0.5	----	----	----	----
Benzo(b)fluoranthene	0.2 µg/L	----	2	98.9	61.7	119
	0.5 µg/L	<0.5	----	----	----	----
Benzo(g,h,i)perylene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	88.2	59.1	118
Benzo(k)fluoranthene	0.2 µg/L	----	2	89.4	61.7	117
	0.5 µg/L	<0.5	----	----	----	----
Chrysene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	90.2	62.5	116
Dibenz(a,h)anthracene	0.2 µg/L	----	2	86.6	61.2	117
	0.5 µg/L	<0.5	----	----	----	----
Fluoranthene	0.2 µg/L	----	2	95.8	63.6	118
	0.5 µg/L	<0.5	----	----	----	----
Fluorene	0.2 µg/L	----	2	95.4	63.9	115
	0.5 µg/L	<0.5	----	----	----	----
Indeno(1,2,3,cd)pyrene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	87.9	59.9	118
Naphthalene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	93.4	62.4	114
Phenanthrene	0.2 µg/L	----	2	94.8	62.6	116
	0.5 µg/L	<0.5	----	----	----	----
Pyrene	0.2 µg/L	----	2	95.6	63.1	118
	0.5 µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 256994)		µg/L	µg/L	%	%	%

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 256994) - continued		µg/L	µg/L	%	%	%
Acenaphthene	0.2 µg/L	----	2	99.2	62.2	113
	0.5 µg/L	<0.5	----	----	----	----
Acenaphthylene	0.2 µg/L	----	2	99.1	63.6	114
	0.5 µg/L	<0.5	----	----	----	----
Anthracene	0.2 µg/L	----	2	105	64.3	116
	0.5 µg/L	<0.5	----	----	----	----
Benz(a)anthracene	0.2 µg/L	----	2	102	64.1	117
	0.5 µg/L	<0.5	----	----	----	----
Benzo(a)pyrene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	102	63.3	117
Benzo(b)fluoranthene	0.2 µg/L	----	2	98.2	61.7	119
	0.5 µg/L	<0.5	----	----	----	----
Benzo(g,h,i)perylene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	101	59.1	118
Benzo(k)fluoranthene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	92.6	61.7	117
Chrysene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	107	62.5	116
Dibenz(a,h)anthracene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	99.7	61.2	117
Fluoranthene	0.2 µg/L	----	2	105	63.6	118
	0.5 µg/L	<0.5	----	----	----	----
Fluorene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	102	63.9	115
Indeno(1,2,3,cd)pyrene	0.2 µg/L	----	2	102	59.9	118
	0.5 µg/L	<0.5	----	----	----	----
Naphthalene	0.5 µg/L	<0.5	----	----	----	----
	0.2 µg/L	----	2	91.4	62.4	114
Phenanthrene	0.2 µg/L	----	2	104	62.6	116
	0.5 µg/L	<0.5	----	----	----	----

Matrix Type: WATER

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

Analyte name	*LOR*	*Method blank result*	*Actual Results*		*Recovery Limits*	
			Spike concentration	*Spike Recovery*	*Dynamic Recovery Limits*	
				LCS	*Low*	*High*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 256994) - continued		µg/L	µg/L	%	%	%
Pyrene	0.2 µg/L	----	2	101	63.1	118
	0.5 µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255954)		µg/L	µg/L	%	%	%
C6 - C9 Fraction	20 µg/L	<20	----	----	----	----
	20 µg/L	----	260	102	75	127
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 256634)		µg/L	µg/L	%	%	%
C10 - C14 Fraction	50 µg/L	<50	----	----	----	----
	50 µg/L	----	200	102	58.9	131
C15 - C28 Fraction	100 µg/L	<100	----	----	----	----
	100 µg/L	----	200	127	73.9	138
C29 - C36 Fraction	50 µg/L	<50	----	----	----	----
	50 µg/L	----	200	106	62.7	131
EP080: BTEX						
EP080: BTEX - (QC Lot: 255954)		µg/L	µg/L	%	%	%
Benzene	1 µg/L	<1	----	----	----	----
	1 µg/L	----	10	103	76.2	124
Ethylbenzene	2 µg/L	----	10	104	76.1	122
	2 µg/L	<2	----	----	----	----
meta- & para-Xylene	2 µg/L	----	10	101	75.7	123
	2 µg/L	<2	----	----	----	----
ortho-Xylene	2 µg/L	----	10	107	77.9	121
	2 µg/L	<2	----	----	----	----
Toluene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	10	101	74.4	124

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	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	Laboratory Sample ID	Client Sample ID	LOR	Spike Concentration		MS	Low	High
EG005T: Total Metals by ICP-AES								
EG005T: Total Metals by ICP-AES - (QC Lot: 256838)				mg/kg	mg/kg	%	%	%
Arsenic	ES0609725-001	Anonymous	5 mg/kg	50	<5	99.0	70	130
Cadmium			1 mg/kg	50	<1	98.8	70	130
Chromium			2 mg/kg	50	8	103	70	130
Copper			5 mg/kg	250	26	105	70	130
Lead			5 mg/kg	250	<5	97.4	70	130
Nickel			2 mg/kg	50	46	80.2	70	130
Zinc			5 mg/kg	250	23	86.2	70	130
EG005T: Total Metals by ICP-AES - (QC Lot: 256841)				mg/kg	mg/kg	%	%	%
Arsenic	ES0609856-019	BH09:0.5-0.7	5 mg/kg	50	12	95.4	70	130
Cadmium			1 mg/kg	50	<1	101	70	130
Chromium			2 mg/kg	50	19	100	70	130
Copper			5 mg/kg	250	13	108	70	130
Lead			5 mg/kg	250	14	99.1	70	130
Nickel			2 mg/kg	50	8	106	70	130
Zinc			5 mg/kg	250	9	89.4	70	130
EG035T: Total Mercury by FIMS								
EG035T: Total Mercury by FIMS - (QC Lot: 256839)				mg/kg	mg/kg	%	%	%
Mercury	ES0609725-001	Anonymous	0.1 mg/kg	5	<0.1	108	70	130
EG035T: Total Mercury by FIMS - (QC Lot: 256840)				mg/kg	mg/kg	%	%	%
Mercury	ES0609856-019	BH09:0.5-0.7	0.1 mg/kg	5	<0.1	101	70	130
EP066: Polychlorinated Biphenyls (PCB)								
EP066: Polychlorinated Biphenyls (PCB) - (QC Lot: 255756)				mg/kg	mg/kg	%	%	%
Total Polychlorinated biphenyls	ES0609758-019	Anonymous	0.1 mg/kg	0.5	<0.10	81.3	70	130

Matrix Type: SOIL

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EP068A: Organochlorine Pesticides (OC)								
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 255757)				mg/kg	mg/kg	%	%	%
gamma-BHC	ES0609758-019	Anonymous	0.05 mg/kg	0.25	<0.05	97.4	75.65	110.44
Heptachlor			0.05 mg/kg	0.25	<0.05	111	72.2	106.71
Aldrin			0.05 mg/kg	0.25	<0.05	88.8	77.54	107.0
Dieldrin			0.05 mg/kg	0.25	<0.05	105	76.37	109.7
Endrin			0.05 mg/kg	1	<0.05	106	68.51	119.47
4,4'-DDT			0.20 mg/kg	1	<0.2	86.2	67.12	118.10
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255764)				mg/kg	mg/kg	%	%	%
Acenaphthene	ES0609856-001	BH01:0.03-0.10	0.5 mg/kg	10	<0.5	93.3	70	130
Pyrene			0.5 mg/kg	10	<0.5	90.7	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 255767)				mg/kg	mg/kg	%	%	%
Acenaphthene	ES0609798-046	Anonymous	0.5 mg/kg	10	<0.5	89.5	70	130
Pyrene			0.5 mg/kg	10	<0.5	91.1	70	130
EP080/071: Total Petroleum Hydrocarbons								
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255765)				mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	ES0609856-001	BH01:0.03-0.10	50 mg/kg	700	<50	78.9	70	130
C15 - C28 Fraction			100 mg/kg	3400	<100	96.8	70	130
C29 - C36 Fraction			100 mg/kg	3600	<100	86.8	70	130
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255766)				mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	ES0609798-046	Anonymous	50 mg/kg	700	<50	79.4	70	130
C15 - C28 Fraction			100 mg/kg	3400	<100	91.7	70	130
C29 - C36 Fraction			100 mg/kg	3600	<100	86.1	70	130
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255932)				mg/kg	mg/kg	%	%	%
C6 - C9 Fraction	ES0609856-001	BH01:0.03-0.10	2 mg/kg	26	<2	75.2	70	130
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 256101)				mg/kg	mg/kg	%	%	%
C6 - C9 Fraction	ES0609856-023	BH12:0.05-0.1	2 mg/kg	26	<2	74.7	70	130
EP080: BTEX								
EP080: BTEX - (QC Lot: 255932)				mg/kg	mg/kg	%	%	%

Matrix Type: SOIL ***Matrix Spike (MS) Report***

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EP080: BTEX - continued								
EP080: BTEX - (QC Lot: 255932) - continued				mg/kg	mg/kg	%	%	%
Benzene	ES0609856-001	BH01:0.03-0.10	0.2 mg/kg	2.5	<0.2	87.4	70	130
Toluene			0.2 mg/kg	2.5	<0.2	77.2	70	130
Ethylbenzene			0.2 mg/kg	2.5	<0.2	87.7	70	130
meta- & para-Xylene			0.2 mg/kg	2.5	<0.2	86.7	70	130
ortho-Xylene			0.2 mg/kg	2.5	<0.2	87.3	70	130
EP080: BTEX - (QC Lot: 256101)				mg/kg	mg/kg	%	%	%
Benzene	ES0609856-023	BH12:0.05-0.1	0.2 mg/kg	2.5	<0.2	78.0	70	130
Toluene			0.2 mg/kg	2.5	<0.2	74.2	70	130
Ethylbenzene			0.2 mg/kg	2.5	<0.2	80.4	70	130
meta- & para-Xylene			0.2 mg/kg	2.5	<0.2	81.6	70	130
ortho-Xylene			0.2 mg/kg	2.5	<0.2	82.8	70	130

Matrix Type: WATER ***Matrix Spike (MS) Report***

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EG005C: Leachable Metals by ICPAES								
EG005C: Leachable Metals by ICPAES - (QC Lot: 256882)				mg/L	mg/L	%	%	%
Arsenic	ES0609856-019	BH09:0.5-0.7	0.1 mg/L	1	<0.1	114	70	130
Cadmium			0.05 mg/L	0.250	<0.05	107	70	130
Chromium			0.1 mg/L	1	<0.1	108	70	130
Copper			0.1 mg/L	1	<0.1	113	70	130
Lead			0.1 mg/L	1	<0.1	104	70	130
Nickel			0.1 mg/L	1	<0.1	107	70	130
Zinc			0.1 mg/L	1	<0.1	95.6	70	130
EG035C: Leachable Mercury by FIMS								
EG035C: Leachable Mercury by FIMS - (QC Lot: 257363)				mg/L	mg/L	%	%	%
Mercury	ES0609801-001	Anonymous	0.001 mg/L	0.1	<0.0010	100	70	130
EG035T: Total Mercury by FIMS								
EG035T: Total Mercury by FIMS - (QC Lot: 256885)				mg/L	mg/L	%	%	%

Matrix Type: WATER

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EG035T: Total Mercury by FIMS - continued								
EG035T: Total Mercury by FIMS - (QC Lot: 256885) - continued				mg/L	mg/L	%	%	%
Mercury	ES0609605-008	Anonymous	0.0001 mg/L	0.010	<0.0001	93.9	70	130
EP080/071: Total Petroleum Hydrocarbons								
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 255954)				µg/L	µg/L	%	%	%
C6 - C9 Fraction	ES0609671-001	Anonymous	20 µg/L	250	<20	84.6	70	130
EP080: BTEX								
EP080: BTEX - (QC Lot: 255954)				µg/L	µg/L	%	%	%
Benzene	ES0609671-001	Anonymous	1 µg/L	25	<1	92.0	70	130
Toluene			2 µg/L	25	<2	89.4	70	130
Ethylbenzene			2 µg/L	25	3	91.8	70	130
meta- & para-Xylene			2 µg/L	25	<2	95.8	70	130
ortho-Xylene			2 µg/L	25	<2	99.1	70	130

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Client	:	**COFFEY ENVIRONMENTS PTY LTD**	**Laboratory**	:	ALS Environmental Sydney	**Page**	:	**1 of 12**
Contact	:	MR JOSHUA LASKEY	**Contact**	:	Greg Vogel			
Address	:	8/12 MARS ROAD LANE COVE WEST NSW AUSTRALIA 2066	**Address**	:	277-289 Woodpark Road Smithfield NSW Australia 2164	**Work order**	:	**ES0609856**
						Amendment No.	:	
Project	:	GEOTLCOV23048AA	**Quote number**	:	----	**Date received**	:	11 Aug 2006
Order number	:	- Not provided -				**Date issued**	:	16 Aug 2006
C-O-C number	:	33186						
Site	:	- Not provided -						
E-mail	:	joshua_laskey@coffey.com.au	**E-mail**	:	Greg.Vogel@alsenviro.com	**No. of samples**		
Telephone	:	02 9911 1000	**Telephone**	:	61-2-87848555	**Received**	:	51
Facsimile	:	02 9911 1001	**Facsimile**	:	61-2-87848500	**Analysed**	:	34

This Interpretive Quality Control Report was issued on 16 Aug 2006 for the ALS work order reference ES0609856 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

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**		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EA055-103: Moisture Content								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	----	----	----	**15 Aug 2006**	17 Aug 2006	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	----	----	----	**15 Aug 2006**	18 Aug 2006	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH01:0.03-0.10,	BH07:0.05-0.10,	**15 Aug 2006**	**15 Aug 2006**	11 Feb 2007	Pass	**15 Aug 2006**	11 Feb 2007	Pass
BH09:0.5-0.7,	BH13:0.3-0.7							
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH09:0.35-0.45		**16 Aug 2006**	**16 Aug 2006**	12 Feb 2007	Pass	**16 Aug 2006**	12 Feb 2007	Pass
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	**15 Aug 2006**	6 Feb 2007	Pass	**16 Aug 2006**	6 Feb 2007	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								

Matrix Type: SOIL

Analysis Holding Time and Preservation

Method / **Container /** Client Sample ID(s)		**Date Sampled**	**Extraction / Preparation**			**Analysis**		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG005T: Total Metals by ICP-AES **- continued**								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	**15 Aug 2006**	7 Feb 2007	Pass	**16 Aug 2006**	7 Feb 2007	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							
EG035C: Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH01:0.03-0.10,	BH07:0.05-0.10,	**15 Aug 2006**	----	----	----	**16 Aug 2006**	12 Sep 2006	Pass
BH09:0.5-0.7,	BH13:0.3-0.7							
Clear Plastic Bottle - Nitric Acid; Unfiltered								
BH09:0.35-0.45		**16 Aug 2006**	----	----	----	**16 Aug 2006**	13 Sep 2006	Pass
EG035T: Total Mercury by FIMS								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	**15 Aug 2006**	7 Sep 2006	Pass	**16 Aug 2006**	7 Sep 2006	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	**15 Aug 2006**	8 Sep 2006	Pass	**16 Aug 2006**	8 Sep 2006	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved								
BH03:0.05-0.10		**10 Aug 2006**	**14 Aug 2006**	24 Aug 2006	Pass	**16 Aug 2006**	23 Sep 2006	Pass
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH06:0.25-0.4,	**11 Aug 2006**	**14 Aug 2006**	25 Aug 2006	Pass	**16 Aug 2006**	23 Sep 2006	Pass
BH07:0.05-0.10,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH12:0.05-0.1,							
BH13:0.3-0.7								
EP068: Pesticides by GCMS								

Matrix Type: SOIL

Analysis Holding Time and Preservation

Method / **Container /** Client Sample ID(s)		**Date Sampled**	**Extraction / Preparation**			**Analysis**		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP068: Pesticides by GCMS **- continued**								
Soil Glass Jar - Unpreserved								
BH03:0.05-0.10		**10 Aug 2006**	**14 Aug 2006**	24 Aug 2006	Pass	**16 Aug 2006**	23 Sep 2006	Pass
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH06:0.25-0.4,	**11 Aug 2006**	**14 Aug 2006**	25 Aug 2006	Pass	**16 Aug 2006**	23 Sep 2006	Pass
BH07:0.05-0.10,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH12:0.05-0.1,							
BH13:0.3-0.7								
EP071: TPH - Semivolatile Fraction								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	**14 Aug 2006**	24 Aug 2006	Pass	**15 Aug 2006**	23 Sep 2006	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	**14 Aug 2006**	25 Aug 2006	Pass	**15 Aug 2006**	23 Sep 2006	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							
EP075(SIM): PAH/Phenols (GC/MS - SIM)								
Amber Glass Bottle - Unpreserved								
BH01:0.03-0.10,	BH07:0.05-0.10,	**15 Aug 2006**	**15 Aug 2006**	22 Aug 2006	Pass	**15 Aug 2006**	24 Sep 2006	Pass
BH09:0.5-0.7,	BH13:0.3-0.7							
Amber Glass Bottle - Unpreserved								
BH09:0.35-0.45		**16 Aug 2006**	**16 Aug 2006**	23 Aug 2006	Pass	**16 Aug 2006**	25 Sep 2006	Pass
EP075(SIM): PAH/Phenols (SIM)								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	**14 Aug 2006**	24 Aug 2006	Pass	**14 Aug 2006**	23 Sep 2006	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								

Matrix Type: SOIL ***Analysis Holding Time and Preservation***

Method / **Container /** Client Sample ID(s)		**Date Sampled**	**Extraction / Preparation**			**Analysis**		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP075(SIM): PAH/Phenols (SIM) **- continued**								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	**14 Aug 2006**	25 Aug 2006	Pass	**14 Aug 2006**	23 Sep 2006	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							
EP080: TPH Volatiles/BTEX								
Soil Glass Jar - Unpreserved								
BH01:0.03-0.10,	BH01:1.1-1.2,	**10 Aug 2006**	**14 Aug 2006**	24 Aug 2006	Pass	**14 Aug 2006**	24 Aug 2006	Pass
BH02:0.1-0.2,	BH02:0.9-1.0,							
BH03:0.05-0.10,	BH03:0.5-0.6,							
BH04:0.05-0.10,	BH04:0.5-0.7,							
DUP1								
Soil Glass Jar - Unpreserved								
BH05:0.05-0.10,	BH05:0.5-0.7,	**11 Aug 2006**	**14 Aug 2006**	25 Aug 2006	Pass	**14 Aug 2006**	25 Aug 2006	Pass
BH06:0.25-0.4,	BH06:1.0-1.1,							
BH07:0.05-0.10,	BH07:0.2-0.4,							
BH08:0.2-0.4,	BH08:1.0-1.3,							
BH09:0.2-0.3,	BH09:0.35-0.45,							
BH09:0.5-0.7,	BH10:0.5-0.95,							
BH11:0.0-0.05,	BH11:0.2-0.6,							
BH12:0.05-0.1,	BH12:0.3-0.6,							
BH13:0.1-0.2,	BH13:0.3-0.7,							
DUP2,	DUP3							

Matrix Type: WATER ***Analysis Holding Time and Preservation***

Method / **Container /** Client Sample ID(s)	**Date Sampled**	**Extraction / Preparation**			**Analysis**		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG020A-T: Total Metals by ICP-MS - Suite A							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
WB110806	**11 Aug 2006**	**14 Aug 2006**	7 Feb 2007	Pass	**14 Aug 2006**	7 Feb 2007	Pass
EG035T: Total Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
WB110806	**11 Aug 2006**	----	----	----	**16 Aug 2006**	8 Sep 2006	Pass
EP071: TPH - Semivolatile Fraction							
Amber Glass Bottle - Unpreserved							
WB110806	**11 Aug 2006**	**15 Aug 2006**	18 Aug 2006	Pass	**15 Aug 2006**	24 Sep 2006	Pass
EP075(SIM): PAH/Phenols (GC/MS - SIM)							

Matrix Type: WATER

Analysis Holding Time and Preservation

Method / **Container /** Client Sample ID(s)	**Date Sampled**	**Extraction / Preparation**			**Analysis**		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP075(SIM): PAH/Phenols (GC/MS - SIM) **- continued**							
Amber Glass Bottle - Unpreserved							
WB110806	**11 Aug 2006**	**15 Aug 2006**	18 Aug 2006	Pass	**15 Aug 2006**	24 Sep 2006	Pass
EP080: TPH Volatiles/BTEX							
Amber VOC Vial - HCl or NaHSO4							
TS100806	**10 Aug 2006**	**----**	----	----	**14 Aug 2006**	24 Aug 2006	Pass
Amber VOC Vial - HCl or NaHSO4							
TB100806, TS110806, TB110806, WB110806	**11 Aug 2006**	**----**	----	----	**14 Aug 2006**	25 Aug 2006	Pass

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	4	39	**10.3**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES	4	36	**11.1**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	4	31	**12.9**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	10	**10.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	10	**10.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	4	40	**10.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	4	31	**12.9**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	4	40	**10.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005T: Total Metals by ICP-AES	2	36	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005T: Total Metals by ICP-AES	2	36	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005T: Total Metals by ICP-AES	2	36	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	10	**10.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	31	**6.5**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	40	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

Matrix Type: WATER

Frequency of Quality Control Samples

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	**Actual**	**Expected**	
Laboratory Duplicates (DUP)					
EG005C: Leachable Metals by ICPAES	3	5	**60.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG020A-T: Total Metals by ICP-MS - Suite A	2	18	**11.1**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035C: Leachable Mercury by FIMS	2	7	**28.6**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	14	**14.3**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	20	**10.0**	**10.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005C: Leachable Metals by ICPAES	3	5	**60.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG020A-T: Total Metals by ICP-MS - Suite A	1	18	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035C: Leachable Mercury by FIMS	2	7	**28.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	14	**7.1**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	1	**100.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	3	7	**42.9**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005C: Leachable Metals by ICPAES	3	5	**60.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG020A-T: Total Metals by ICP-MS - Suite A	1	18	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035C: Leachable Mercury by FIMS	2	7	**28.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	14	**7.1**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	1	**100.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	3	7	**42.9**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005C: Leachable Metals by ICPAES	1	5	**20.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG020A-T: Total Metals by ICP-MS - Suite A	1	18	**5.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035C: Leachable Mercury by FIMS	2	7	**28.6**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	14	**7.1**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	**5.0**	**5.0**	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

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

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Laboratory Control Samples (LCS)							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	SOIL	281286-002	----	Benzo(a)pyrene	118 %	76.4-113 %	Recovery greater than upper control limit
				Indeno(1,2,3,cd)pyrene	117 %	71-113 %	Recovery greater than upper control limit
				Dibenz(a,h)anthracene	116 %	71.7-113 %	Recovery greater than upper control limit
				Benzo(g,h,i)perylene	118 %	72.4-114 %	Recovery greater than upper control limit
Matrix Spikes (MS)							
EP068A: Organochlorine Pesticides (OC)	SOIL	ES0609758-019	Anonymous	Heptachlor	111 %	72.2-106.71 %	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.**

Surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Surrogates							
EP080S: TPH(V)/BTEX Surrogates	SOIL	ES0609856-016	BH08:1.0-1.3	Toluene-D8	118 %	81-117 %	Recovery greater than upper data quality objective

Outliers : Analysis Holding Time

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

- **No holding time outliers occur.**

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.**

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.

ORG17A : Tumbler Extraction of Solids (Option A - Concentrating) - In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

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

ASB-SOL : Asbestos - Count (Solid) - Asbestos Count on solid matrices conducted by Subcontracting Laboratory

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)

EG035T : Total Mercury by FIMS - AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)

EP066 : Polychlorinated Biphenyls (PCB) - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)

EP068 : Pesticides by GCMS - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)

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)

Matrix Type: TCLP LEACHATE ***Method Reference Summary***

Matrix Type: TCLP LEACHATE ***Method Reference Summary***

Preparation Methods

EN25C : Digestion for Total Recoverable Metals - USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

ORG14 : Separatory Funnel Extraction of Liquids - USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Analytical Methods

EG005C : Leachable Metals by ICPAES - APHA 20th ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EG035C : Leachable Mercury by FIMS - AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EN33 : TCLP for Non and Semivolatile Analytes - (USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters. Extraction Fluid #1 pH 4.88 - 4.98. Extraction Fluid #2 pH 2.83 - 2.93.

EP075(SIM) : PAH/Phenols (GC/MS - SIM) - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Matrix Type: WATER ***Method Reference Summary***

Preparation Methods

EN25 : Digestion for Total Recoverable Metals - USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

ORG14 : Separatory Funnel Extraction of Liquids - USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Analytical Methods

EG020A-T : Total Metals by ICP-MS - Suite A - (APHA 20th ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.

EG035T : Total Mercury by FIMS - AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP071 : TPH - Semivolatile Fraction - USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP075(SIM) : PAH/Phenols (GC/MS - SIM) - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP080 : TPH Volatiles/BTEX - USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Matrix Type: WATER

Method Reference Summary

Analytical Methods

AUSTRALIAN LABORATORY SERVICES PTY LTD ABN 84 009 936 029
Smithfield NSW 2164 Australia
Telephone: 61-2-87848555 Facsimile: 61-2-87848500 http://www.alsenviro.com/

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive report

Client Details

Client	:	**COFFEY ENVIRONMENTS PTY LTD**
Contact	:	**MR JOSHUA LASKEY**
Address	:	8/12 MARS ROAD LANE COVE WEST NSW AUSTRALIA 2066
Project	:	**GEOTLCOV23048AA**
Order number	:	**- Not provided -**
C-O-C Number	:	**33186**
Site	:	**- Not provided -**
Sampler	:	**J.DUTTON**
E-mail	:	joshua_laskey@coffey.com.au
Telephone	:	02 9911 1000
Facsimile	:	02 9911 1001

Laboratory Details

Laboratory	:	**ALS Environmental Sydney**
Manager	:	**Greg Vogel**
Address	:	Smithfield NSW Australia 2164
Quote number	:	----
Work order	:	**ES0609856**
E-mail	:	Greg.Vogel@alsenviro.com
Telephone	:	61-2-87848555
Facsimile	:	61-2-87848500

Dates

Date Samples Received	:	11 Aug 2006	**SRA Issue Date**	:	11 Aug 2006
Scheduled Reporting Date	:	**16 Aug 2006**	**Client Requested Date**	:	16 Aug 2006

Delivery Details

Mode of Delivery	:	Carrier.	**Temperature**		:	CHILLED - Ice present
No. of coolers/boxes	:	2 HARD	**No. of samples**	**- Received**		51
Security Seal	:	Intact.		**- Analysed**		34

Comments

- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**

- Analytical work for this work order will be conducted at ALSE Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.
- Please direct any queries related to sample condition / numbering / breakages to Nazeeh Aoun.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- 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.

Client	: COFFEY ENVIRONMENTS PTY LTD	**Work Order**	: ES0609856
Project	: GEOTLCOV23048AA	**ALS Quote Reference**	: ----

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

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages 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**									
		ASB-SOL - SOIL Asbestos - Count (Solid)	**EP075 SIM PAH only - WATER** SIM - PAH only	**EP080 - WATER** BTEX	**S-02 - SOIL** 8 Metals (incl. Digestion)	**S-07 - SOIL** TPH/BTEX/PAH (SIM)	**S-11 - SOIL** OC/PCB	**TCLP - SOIL** TCLP Leach	**TCLP - WATER** TCLP Leach	**W-02L - WATER** 8 metals (TCLP)	**W-02T - WATER** 8 metals (Total)
ES0609856-001	**BH01:0.03-0.10 - 10 Aug 2006**	]	]		]	]		]	]	]	
ES0609856-002	**BH01:1.1-1.2 - 10 Aug 2006**	]			]	]					
ES0609856-003	**BH02:0.1-0.2 - 10 Aug 2006**	]			]	]					
ES0609856-004	**BH02:0.9-1.0 - 10 Aug 2006**	]			]	]					
ES0609856-005	**BH03:0.05-0.10 - 10 Aug 2006**	]			]	]	]				
ES0609856-006	**BH03:0.5-0.6 - 10 Aug 2006**	]			]	]					
ES0609856-007	**BH04:0.05-0.10 - 10 Aug 2006**	]			]	]					
ES0609856-008	**BH04:0.5-0.7 - 10 Aug 2006**	]			]	]					
ES0609856-009	**BH05:0.05-0.10 - 11 Aug 2006**	]			]	]	]				
ES0609856-010	**BH05:0.5-0.7 - 11 Aug 2006**	]			]	]					
ES0609856-011	**BH06:0.25-0.4 - 11 Aug 2006**	]			]	]	]				
ES0609856-012	**BH06:1.0-1.1 - 11 Aug 2006**	]			]	]					
ES0609856-013	**BH07:0.05-0.10 - 11 Aug 2006**	]	]		]	]	]	]	]	]	
ES0609856-014	**BH07:0.2-0.4 - 11 Aug 2006**	]			]	]					
ES0609856-015	**BH08:0.2-0.4 - 11 Aug 2006**	]			]	]					
ES0609856-016	**BH08:1.0-1.3 - 11 Aug 2006**	]			]	]					
ES0609856-017	**BH09:0.2-0.3 - 11 Aug 2006**	]			]	]					
ES0609856-018	**BH09:0.35-0.45 - 11 Aug 2006**	]	]		]	]	]	]	]	]	
ES0609856-019	**BH09:0.5-0.7 - 11 Aug 2006**	]	]		]	]	]	]	]	]	
ES0609856-020	**BH10:0.5-0.95 - 11 Aug 2006**	]			]	]					
ES0609856-021	**BH11:0.0-0.05 - 11 Aug 2006**	]			]	]					
ES0609856-022	**BH11:0.2-0.6 - 11 Aug 2006**	]			]	]					
ES0609856-023	**BH12:0.05-0.1 - 11 Aug 2006**	]			]	]	]				
ES0609856-024	**BH12:0.3-0.6 - 11 Aug 2006**	]			]	]					
ES0609856-025	**BH13:0.1-0.2 - 11 Aug 2006**	]			]	]					
ES0609856-026	**BH13:0.3-0.7 - 11 Aug 2006**	]	]		]	]	]	]	]	]	
ES0609856-027	**DUP1 - 10 Aug 2006**	]			]	]					
ES0609856-028	**DUP2 - 11 Aug 2006**	]			]	]					
ES0609856-029	**DUP3 - 11 Aug 2006**	]			]	]					
ES0609856-030	**TS100806 - 10 Aug 2006**			]							
ES0609856-031	**TB100806 - 11 Aug 2006**			]							
ES0609856-032	**TS110806 - 11 Aug 2006**			]							
ES0609856-033	**TB110806 - 11 Aug 2006**			]							
ES0609856-034	**WB110806 - 11 Aug 2006**										]
ES0609856-035	**BH01:0.5-0.6 - 10 Aug 2006**										
ES0609856-036	**BH01:1.5-1.6 - 10 Aug 2006**										
ES0609856-037	**BH01:2.0-2.2 - 10 Aug 2006**										
ES0609856-038	**BH03:1.0-1.2 - 10 Aug 2006**										
ES0609856-039	**BH04:1.1-1.3 - 10 Aug 2006**										
ES0609856-040	**BH04:1.6-1.7 - 10 Aug 2006**										
ES0609856-041	**BH05:1.0-1.2 - 11 Aug 2006**										
ES0609856-042	**BH05:1.6-1.8 - 11 Aug 2006**										
ES0609856-043	**BH06:1.3-1.5 - 11 Aug 2006**										
ES0609856-044	**BH07:1.0-1.1 - 11 Aug 2006**										
ES0609856-045	**BH09:1.0-1.3 - 11 Aug 2006**										

Client : COFFEY ENVIRONMENTS PTY LTD
Project : GEOTLCOV23048AA
Work Order : ES0609856
ALS Quote Reference : ----

ALS Sample ID.	Client Sample ID - Sample Date	**Requested Analysis**									
		ASB-SOL - SOIL Asbestos - Count (Solid)	**EP075 SIM PAH only - WATER** SIM - PAH only	**EP080 - WATER** BTEX	**S-02 - SOIL** 8 Metals (incl. Digestion)	**S-07 - SOIL** TPH/BTEX/PAH (SIM)	**S-11 - SOIL** OC/PCB	**TCLP - SOIL** TCLP Leach	**TCLP - WATER** TCLP Leach	**W-02L - WATER** 8 metals (TCLP)	**W-02T - WATER** 8 metals (Total)
ES0609856-046	**BH09:1.7-1.95 - 11 Aug 2006**										
ES0609856-047	**BH10:1.5-1.65 - 11 Aug 2006**										
ES0609856-048	**BH11:1.1-1.3 - 11 Aug 2006**										
ES0609856-049	**BH12:1.1-1.3 - 11 Aug 2006**										
ES0609856-050	**BH13:1.0-1.4 - 11 Aug 2006**										
ES0609856-051	**BH09:0-0.5 - 11 Aug 2006**										
	Total(s) :	**29**	**5**	**4**	**29**	**29**	**8**	**5**	**5**	**5**	**1**

Client : COFFEY ENVIRONMENTS PTY LTD
Project : GEOTLCOV23048AA
Work Order : ES0609856
ALS Quote Reference : ----

ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		W-07 - WATER TPH/BTEX/PAH									
ES0609856-001	**BH01:0.03-0.10 - 10 Aug 2006**										
ES0609856-002	**BH01:1.1-1.2 - 10 Aug 2006**										
ES0609856-003	**BH02:0.1-0.2 - 10 Aug 2006**										
ES0609856-004	**BH02:0.9-1.0 - 10 Aug 2006**										
ES0609856-005	**BH03:0.05-0.10 - 10 Aug 2006**										
ES0609856-006	**BH03:0.5-0.6 - 10 Aug 2006**										
ES0609856-007	**BH04:0.05-0.10 - 10 Aug 2006**										
ES0609856-008	**BH04:0.5-0.7 - 10 Aug 2006**										
ES0609856-009	**BH05:0.05-0.10 - 11 Aug 2006**										
ES0609856-010	**BH05:0.5-0.7 - 11 Aug 2006**										
ES0609856-011	**BH06:0.25-0.4 - 11 Aug 2006**										
ES0609856-012	**BH06:1.0-1.1 - 11 Aug 2006**										
ES0609856-013	**BH07:0.05-0.10 - 11 Aug 2006**										
ES0609856-014	**BH07:0.2-0.4 - 11 Aug 2006**										
ES0609856-015	**BH08:0.2-0.4 - 11 Aug 2006**										
ES0609856-016	**BH08:1.0-1.3 - 11 Aug 2006**										
ES0609856-017	**BH09:0.2-0.3 - 11 Aug 2006**										
ES0609856-018	**BH09:0.35-0.45 - 11 Aug 2006**										
ES0609856-019	**BH09:0.5-0.7 - 11 Aug 2006**										
ES0609856-020	**BH10:0.5-0.95 - 11 Aug 2006**										
ES0609856-021	**BH11:0.0-0.05 - 11 Aug 2006**										
ES0609856-022	**BH11:0.2-0.6 - 11 Aug 2006**										
ES0609856-023	**BH12:0.05-0.1 - 11 Aug 2006**										
ES0609856-024	**BH12:0.3-0.6 - 11 Aug 2006**										
ES0609856-025	**BH13:0.1-0.2 - 11 Aug 2006**										
ES0609856-026	**BH13:0.3-0.7 - 11 Aug 2006**										
ES0609856-027	**DUP1 - 10 Aug 2006**										
ES0609856-028	**DUP2 - 11 Aug 2006**										
ES0609856-029	**DUP3 - 11 Aug 2006**										
ES0609856-030	**TS100806 - 10 Aug 2006**										
ES0609856-031	**TB100806 - 11 Aug 2006**										
ES0609856-032	**TS110806 - 11 Aug 2006**										
ES0609856-033	**TB110806 - 11 Aug 2006**										
ES0609856-034	**WB110806 - 11 Aug 2006**	]									
ES0609856-035	**BH01:0.5-0.6 - 10 Aug 2006**										
ES0609856-036	**BH01:1.5-1.6 - 10 Aug 2006**										
ES0609856-037	**BH01:2.0-2.2 - 10 Aug 2006**										
ES0609856-038	**BH03:1.0-1.2 - 10 Aug 2006**										
ES0609856-039	**BH04:1.1-1.3 - 10 Aug 2006**										
ES0609856-040	**BH04:1.6-1.7 - 10 Aug 2006**										
ES0609856-041	**BH05:1.0-1.2 - 11 Aug 2006**										
ES0609856-042	**BH05:1.6-1.8 - 11 Aug 2006**										
ES0609856-043	**BH06:1.3-1.5 - 11 Aug 2006**										
ES0609856-044	**BH07:1.0-1.1 - 11 Aug 2006**										
ES0609856-045	**BH09:1.0-1.3 - 11 Aug 2006**										
ES0609856-046	**BH09:1.7-1.95 - 11 Aug 2006**										
ES0609856-047	**BH10:1.5-1.65 - 11 Aug 2006**										
ES0609856-048	**BH11:1.1-1.3 - 11 Aug 2006**										
ES0609856-049	**BH12:1.1-1.3 - 11 Aug 2006**										

Client : COFFEY ENVIRONMENTS PTY LTD
Project : GEOTLCOV23048AA
Work Order : ES0609856
ALS Quote Reference : ----

ALS Sample ID.	Client Sample ID - Sample Date	**Requested Analysis**									
		W-07 - WATER TPH/BTEX/PAH									
ES0609856-050	**BH13:1.0-1.4 - 11 Aug 2006**										
ES0609856-051	**BH09:0-0.5 - 11 Aug 2006**										
	Total(s) :	**1**									

Client	: COFFEY ENVIRONMENTS PTY LTD	**Work Order**	: ES0609856
Project	: GEOTLCOV23048AA	**ALS Quote Reference**	: ----

Requested Reports

l **MR JOSHUA LASKEY**

-	Subcontracted Reports	Email	joshua_laskey@coffey.com.au
-	A4 - Certificate of Analysis - NEPM format	Email	joshua_laskey@coffey.com.au
-	A4 - Quality Control Report - NEPM format	Email	joshua_laskey@coffey.com.au
-	A4 - Interpretive Quality Control Report - NEPM format	Email	joshua_laskey@coffey.com.au
-	ENMRG Export Format	Email	joshua_laskey@coffey.com.au
-	Chain of Custody Acknowledgement	Email	joshua_laskey@coffey.com.au
-	A4 - Sample Receipt Notification - Comprehensive format	Email	joshua_laskey@coffey.com.au
-	Invoice	Email	joshua_laskey@coffey.com.au

Sample Container(s) / Preservation Non-Compliance Log

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

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

No: 33186

Chain of Custody

Laboratory Quotation / Order No:

Job No: GEOTLCON23048AA

Sheet 1 of 3

Coffey

Dispatch to: (Address & Phone No.) ALS	Sampled by: J. Dutton	Consigning Officer: SWD Date Dispatched:
Attention: Greg Vogel	Project Manager: (report results to) Josh Lasky.	Courier Service: Consignment Note No:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
J. DUTTON	11.8.06	4.30pm	Sophie Hepho ALS	11.8.06	4.35pm

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	PAHs	TPHs	BTEX	Metals:	Asbestos	OCP	PCB	TCLP PAH	TCLP metals	HOLD	Sample Condition on Receipt
	SOIL	SOIL JAR	(1) BH01: 0.03–0.10	10.8.06	X	X	X	X	X			X	X		
		35	" : 0.5–0.6											X	
			(2) " : 1.1–1.2		X	X	X	X	X						
		36	" : 1.5–1.6											X	
		37	" : 2.0–2.2											X	
			(3) BH02: 0.1–0.2		X	X	X	X	X						
			(4) " : 0.9–1.0		X	X	X	X	X						
			(5) BH03: 0.05–0.10		X	X	X	X	X	X	X				
			(6) " : 0.5–0.6		X	X	X	X	X						
		38	" : 1.0–1.2											X	
			(7) BH04: 0.05–0.10		X	X	X	X	X						
			(8) " : 0.5–0.7		X	X	X	X	X						
		39	" : 1.1–1.3											X	
		40	" : 1.6–1.7											X	
			(9) BH05: 0.05–0.10	11.8.06	X	X	X	X	X	X	X				
			(10) " : 0.5–0.7		X	X	X	X	X						
		41	" : 1.0–1.2											X	

Analyses Required

CONTRACT WORK

WO: .....

LAB: ASET Asbestos 29x bags.

DATE: .....

SPLIT: .....

ALS Environmental
Sydney
Work Order
ES0609856

Report Version: AliquotLabel 1.02

Telephone : 61-2-87848555

Special Laboratory Instructions: (7) Standard 8 metals

Detection Limits:

Turnaround Required: Req'd by next Wednesday as discussed w/ G.V.

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

20053/11-01

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

No: 33187

Chain of Custody

Laboratory Quotation / Order No:

Job No: GEOTLCON230448AA

Sheet 2 of 3

Coffey

Dispatch to: (Address & Phone No.) ALS	Sampled by: J. Dutton	Consigning Officer: Date Dispatched:
Attention:	Project Manager: (report results to) J. LASKY.	Courier Service: Consignment Note No:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
J. DUTTON	11.8.06	4.30pm	Sonja Stegn AS	11.8.06	4.35pm

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	PAHs	TPHs	~~MAHs~~ = BTEX	(*) Metals:	Asbestos	OCP	PCB	TCLP PAH	TCLP metals	HOLD	Sample Condition on Receipt
	SOIL	42 SOIL JAR	BH05: 1.6–1.8	11.8.06										X	
			11 BH06: 0.25–0.4		X	X	X	X	X	X	X				
			12 BH06: 1.0–1.1		X	X	X	X	X						
		43	" : 1.3–1.5											X	
			13 BH07: 0.05–0.10		X	X	X	X	X	X	X	X	X	X	
			14 " : 0.2–0.4		X	X	X	X	X						
		44	" : 1.0–1.1		X	X	X	X	X					X	
			15 BH08: 0.2–0.4		X	X	X	X	X						
			16 " : 1.0–1.3		X	X	X	X	X						
			17 BH09: 0.2–0.3		X	X	X	X	X						
			18 " : 0.35–0.45		X	X	X	X	X	X	X	X	X		
			19 " : 0.5–0.7		X	X	X	X	X	X	X	X	X		
		45	" : 1.0–1.3		X	X	X	X						X	
		46	" : 1.7–1.95											X	
			20 BH10: 0.5–0.95		X	X	X	X	X						
		47	" : 1.5–1.65											X	
			21 BH11: 0.0–0.05		X	X	X	X	X	X	X			X	
					X	X	X	X	X						

→ if sufficient sample.

Special Laboratory Instructions: (*) 8 metals

Detection Limits:

Turnaround Required:

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

20053/11-01

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

No: 33188

Chain of Custody

Laboratory Quotation / Order No:

Job No: GEOTLCOV23048AA

Sheet 3 of 3

Coffey

Dispatch to: (Address & Phone No.) ALS	Sampled by: J. DUTTON	Consigning Officer: SYD. Date Dispatched:
Attention: Greg Vogel.	Project Manager: (report results to) J. Lashy	Courier Service: Consignment Note No:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
J. DUTTON	11.8.06		Sey Sypm ALS.	11.8.06	4.35pm

Comments	Sample Matrix	Container Type and Preservative	Sample No.	Date Sampled	PAHs	TPHs	~~MAHs~~ = BTEX	(+) Metals:	Asbestos	OCP	PCB	TCLP PAH	TCLP metals	HOLD	Sample Condition on Receipt
	SOIL	JAR. 48	(22) BH11: 0.2-0.6	11.8.06	X	X	X	X	X						
			BH11: 1.1-1.3		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					X	
			(23) BH12: 0.05-0.1		X	X	X	X	X	X	X				
			(24) " : 0.3-0.6		X	X	X	X	X						
		49	" 1.0-1.3											X	
			(25) BH13: 0.1-0.2		X	X	X	X	X						
			(26) " : 0.3-0.7		X	X	X	X	X	X	X	X	X		
		50	" : 1.0-1.4		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					X	
BH3: 0.05-0.1			(27) DUP1	10.8.06	X	X	X	X	X						
BH11: 0.2-0.6			(28) DUP2	11.8.06	X	X	X	X	X						
BH13: 0.3-0.7			(29) DUP3		X	X	X	X	X						
	WATER	VIALS	(30) TS 100806	10.8.06			/								
			(31) TB 100806	"			/								
			(32) TS 110806	11.8.06			/								
			(33) TB 110806				/								
		ALS bottles	(34) WB 110806		X	X	X	X							

Special Laboratory Instructions: (+) 8 metals.

Detection Limits:

Turnaround Required:

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

20053/11-01

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

Appendix F

QA/QC Reports

Coffey Geosciences Pty Ltd ABN 57 056 335 516 ACN 056 335 516

Environmental Division

QA/QC DATA VALIDATION REPORT

Job Number: GEOTLCOV23048AA Laboratory batch: ALS ES0609856

I. SAMPLE HANDLING

	Yes	No (Comment below)
1. Were the sample **holding times** met?	☒	☐
2. Were the samples in **proper custody** between the field and reaching the laboratory?	☒	☐
3. Were the samples **properly and adequately** preserved? *This includes keeping the samples chilled, where applicable.*	☒	☐
4. Were the samples received by the laboratory in good condition?	☒	☐

COMMENTS:

Sample Handling was:

☒ Satisfactory

☐ Partially Satisfactory

☐ Unsatisfactory

II PRECISION/ACCURACY ASSESSMENT

	Yes	No (Comment below)
1. Was a NATA registered laboratory used?	☒	☐
2. Did the laboratory perform the requested tests?	☒	☐
3. Were the laboratory methods adopted NATA endorsed?	☒	☐
4. Were the appropriate test procedures followed?	☒	☐
5. Were the reporting limits satisfactory?	☒	☐
6. Was the NATA Seal on the reports?	☒	☐
7. Were the reports signed by an authorised person?	☒	☐

COMMENTS:

Precision/Accuracy of the Laboratory Report:

☒ Satisfactory

☐ Partially Satisfactory

☐ Unsatisfactory

III. FIELD QA/QC

1. Number of Primary Samples analysed *(does not include duplicates)* — Soil: 29; Water: 5 (including WB and TS/TBs)

2. Number of Days of Sampling: — Soil: 2; Water: 2

3. Number and Type of QA/QC Samples analysed:

	SOIL	WATER
Intra-Laboratory Field Duplicates	3	N/A
Inter-Laboratory Field Duplicates	0	N/A
Trip Blanks	2	N/A
Wash Blanks	1	N/A
Other (Field Blanks, Spiked Trip Blanks, etc.)	2	N/A

4. FIELD DUPLICATES

	Yes	No (Comment below)
A. Were an Adequate Number of intra- and inter-laboratory field duplicates analysed?	☒	☐
B. Were RPDs within Control Limits?		
a. Organics (± 50%)	☒	☐
b. Metals/Inorganics (± 50%)	☐	☒
c. Nutrients (± 50%)	N/A	N/A

COMMENTS:

Minor exceedences of intra-lab duplicate control limits for metals due to heterogeneity of material sampled. This is common in fill materials (for DUP1 and DUP2) and also occurs in natural materials (DUP3) when sampling still clay that is not easily duplicated during sampling. Generally the exceedences were low and based on the reasons stated they are not considered to impact the usability of lab data.

III. FIELD QA/QC (Continued)

5. TRIP BLANKS / WASH BLANKS

	Yes	No (Comment below)
A. Were an Adequate Number of trip blanks analysed?	☒	☐
B. Were an Adequate Number of wash blanks analysed?	☒	☐
C. Were the Trip Blanks free of contaminants?	☒	☐
D. Were the Wash Blanks free of contaminants? (If no, comment whether the contaminants present are also detected in the samples and whether they are common laboratory chemicals.)	☒	☐

COMMENTS:

6. TRIP SPIKES

	Yes	No (Comment below)
A. Were an adequate number of Trip Spikes analysed?	☒	☐
B. Were the Trip Spike results within control limits?	☒	☐

COMMENTS:

☒ Satisfactory

☐ Partially Satisfactory

☐ Unsatisfactory

IV LABORATORY INTERNAL QUALITY CONTROL PROCEDURES

	Yes	No (Comment below)
1. Were an adequate number of internal laboratory QC procedures performed (ie. laboratory control samples, matrix spikes, matrix blanks, surrogates)?	☒	☐
2. Were the results of the internal laboratory QC procedures acceptable?	☒	☐

COMMENTS:

The laboratory internal QA / QC was:

☒ Satisfactory

☐ Partially Satisfactory

☐ Unsatisfactory

V. SUMMARY OF QA / QC REPORT

	Satisfactory	Partially Satisfactory	Unsatisfactory
Sample handling	☒	☐	☐
Precision / Accuracy of the Laboratory Report	☒	☐	☐
Field QA / QC	☒	☐	☐
Laboratory Internal QA / QC	☒	☐	☐

VI. DATA USABILITY

1. Data Directly Usable ☒
2. Data Usable with the following corrections/modifications (see comment below) ☐
3. Data Not Usable. ☐

COMMENTS:

QA / QC Report Prepared by: James Dutton

QA / QC Report Reviewed by: Damien Davidson