LEWISHAM ESTATE PTY LTD

ENVIRONMENTAL SITE ASSESSMENT

78 – 90 OLD CANTERBURY ROAD
LEWISHAM, NSW

Environmental Investigations

Report No. E1074.1 AF

7th October, 2009

www.eiaustralia.com.au
service@eiaustralia.com.au
17/1A Coulson Street, Erskineville, NSW, 2043 - Australia
Ph: 02 9516 0722 / Fax: 02 9516 0741

Report Distribution

Environmental Site Assessment
78-90 Old Canterbury Road, LEWISHAM, NSW

EI Report No. *E1074.1 AF*
Date: *7th October, 2009*

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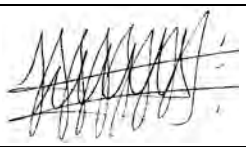
Author:	**Technical Reviewer:**
	
ERIC GERGES Environmental Project Manager	DR VAGNER JORDEN Principal Environmental Engineer

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1.0 INTRODUCTION

Environmental Investigations was engaged by Lewisham Estate Pty Ltd to conduct an Environmental Site Assessment (ESA) for a site located at 78-90 Old Canterbury Road, Lewisham, NSW (henceforth referred to as 'the site').

The site includes approximately 13,130m^2 of land, which incorporates Lot 11 in DP 774322, and Lots 6, 7 and 8 in DP 977044 within the local government authority of Marrickville Council, Parish of Petersham and the county of Cumberland (*Ref.* Figure 1).

At the time of this assessment the site was in use by a large commercial/industrial complex covering approximately 60% of the site footprint. It was occupied by manufacturing and storage facilities for at least six different businesses and also used for residential purposed as two residential dwelling were located on the site. It is further understood that this assessment is required for environmental due diligence purposes, as well as to address requirements for site rezoning as a mixed retail/residential development.

The purpose of this ESA is to evaluate the potential for contamination within the site as part of a concept plan application and future project / development application for use of the site for mixed use (including residential) purposes.

This report documents the findings of all investigations conducted by EI, including reviews of relevant maps, a desk study involving a review of site history, field works, results of laboratory analyses and a discussion of the potential areas of environmental concern.

The work reported herein follows standard environmental procedures and was conducted with the following references:

- ANZECC (1992) *Summary guidelines for the protection of fresh water aquatic ecosystems*, published under the Australian Water Quality Guidelines for Fresh and Marine Waters;

- ANZECC (2000) *Trigger Values for the protection of 95% of freshwater species*, published under the Australian and New Zealand Guidelines for Fresh and Marine Water Quality;

- *Guidelines for the Assessment and Management of Contaminated Sites*, published by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC) (ANZECC and NHMRC January, 1992);

- *Guidelines on Data Collection, Sample Design and Reporting* published by the National Environmental Protection Council (NEPC, 1999);

- *Guidelines for the NSW Site Auditor Scheme* (DECC, 2006);

- NEPC (1999) *Groundwater Investigation Levels for the protection of fresh water aquatic ecosystems*, published under Schedule B(1) of the National Environment Protection (Assessment of Site Contamination) Measure; and

- NEPC (1999) *Schedule B(2) Guideline on Data Collection, Sample Design and Reporting*, published under the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, by the National Environment Protection Council (NEPC, 1999); and

- *Sampling Design Guidelines* (EPA, 1995).

2.0 PROJECT OBJECTIVES AND SCOPE OF WORKS

The objectives of this assessment were:

- to assess the degree of site contamination, if any; and
- to preliminarily assess the groundwater conditions.

In order to achieve these objectives, the scope of work involved:

Desktop Study

- a review of relevant hydrogeological and soil landscape maps for the project area;
- a review of land title records for information relating to site ownership;
- a search of NSW WorkCover Authority records for information relating to possible underground tank approvals and locations;
- a search of historical aerial photographs archived at the NSW Department of Lands;
- a search of Marrickville Council records pertaining to previous site use and/or relevant environmental incidents;
- a search through the NSW Department of Environment and Climate Change (DECC) to confirm that there are no statutory notices current on any parts of the site under the *Contaminated Land Management Act 1997*;
- a detailed site walkover inspection;

- preliminary sub-surface investigations, by way of twenty five test boreholes (BH1 to BH25) distributed across the site on a judgemental basis close to potential sources of contamination;

- collection of natural and fill soil samples at multiple levels from the twenty five sampling locations;

- laboratory analysis of selected soil samples for relevant analytical parameters; and

- data interpretation and reporting.

Field Work

- a site walkover inspection, including a review of the nature and extent of the proposed soil disturbance;

- sub-surface inspections, by way of twenty five test boreholes (BH1 to BH25);

- the installation and sampling of two groundwater monitoring bores, located at targeted points with laboratory analysis of groundwater samples for the relevant analytical parameters (where groundwater is encountered);

- collection of natural and fill soil samples at multiple levels from the twenty five locations;

- laboratory analysis of selected soil and groundwater samples for relevant analytical parameters; and

- data interpretation and reporting.

3.0 SITE DESCRIPTION

3.1 PROPERTY IDENTIFICATION, PHYSICAL SETTING AND LOCAL LAND USE

With the street address of 78 – 90 Old Canterbury Rd, Lewisham, NSW the site is further identified as Lot 11 in DP 774322, and lot 6, 7 and 8 in DP 977044 within the local government authority of Marrickville Council, Parish of Petersham and county of Cumberland (*Ref*. Figure 1).

The site is irregularly shaped, covering a total area of approximately 13,130m^2 (*Ref*. Figure 2). The site is bound by Longport Street to the north, a rail line to the west - northwest, Hudson Street to the south and old Canterbury Rd to the east – southeast. Brown Street and William Street enter the site from the north and east respectively.

According to the Marrickville Local Environmental Plan (LEP) 2001 (Consolidated 4 July 2008), the site zoning is currently zone as *4(b) – Light Industrial.*

At the time of this assessment the site was occupied by Morgan Expo Pty Ltd, T.K. Wrapping Pty Ltd, ALE Holdings Pty Ltd, Clarke Packaging Pty Ltd and used as manufacturing, storage and retail facility for these businesses. Parts of the site was also occupied by two residential dwellings.

The site adjoins a residential zone along the eastern boundaries (across Old Canterbury Road). Other developments adjoining the site include industrial developments to the south (across Hudson Street), partially residential (across William Street) and railway lines (across Longport Street) to the north as well as to the west of the site (*Ref*. Figure 2).

In accordance with the Land and Property Information (LPI) NSW *Botany Bay Topographic Map 1:25,000 Geological Series 9130-3S* (LPI 2002, 2nd Edition) the site lies on an elevation of approximately 10m Australian Height Datum (AHD). Furthermore, in accordance with a site survey provided by Lewisham Estate Pty Ltd the site slopes from

gently to the northeast from the southern boundary with gradient of approximately 1m vertical to 25m horizontal and to the southwest from the northern boundaries, with gradient of approximately 1m vertical to 30m horizontal.

Generally site surface drainage is likely to follow the surface topography and flows to the north-western parts of the site joining Hawthorne Canal, which is approximately 50m northwest of the site and flows towards Iron Cove Creek, a further 2.8km to the north and finally Parramatta River, approximately 3km thereafter. It is anticipated therefore that groundwater movement beneath the site is likely to flow in a north-western direction.

Surface drainage in sealed areas would find its way either to a rare on-site surface drain, or to the Brown Street or Longport Street drainage systems; in either case, the water would probably be channelled by underground drains to the Hawthorne Canal, which feeds Iron Cove Creek tributary.

3.2 REGIONAL GEOLOGY AND HYDROGEOLOGICAL CONDITIONS

Geology

Information on regional sub-surface conditions, referenced from the Department of Mineral Resources Geological Map *Sydney 1:100,000 Geological Series Sheet 9130* (DMR 1991), indicate that the site overlies an interface between Ashfield Shale (*Rwa*) and Michinburry Sandstone (*Rwm*) from the Wianamatta Group, which is characterised by black to dark grey shale and laminite (*Rwa*) and shale, carbonaceous claystone laminite fine to medium-grained lithic sandstone, rare coal (*Rwm*).

The Department of Land and Water Conservation *Soil Landscapes of Sydney 1:100,000 Sheet 9130*, indicated that the site overlies a Residual Landscape – Blacktown (*bt*). According to Chapman and Murphy, this landscape type includes gently undulating rises with local relief between 10-30m. Slopes are generally <5% but occasionally up to 10%. Crests and ridges are broad (200-600m) and rounder with convex upper slopes grading into concave lower slopes and broad drainage depressions and valley flats. Rock outcrop is absent.

Soils are shallow to moderately deep (<150cm) Red Podzolic Soils and Brown Podzolic Soils on crests, upper slopes and well-drained areas. Deep (150-300cm) Yellow Podzolic Soils and soloths on lower slopes and in drainage depressions and localised areas of poor drainage. Limitations include moderately reactive, highly plastic subsoils and low soil fertility.

Hydrogeology

The groundwater at the site is expected to lie within an unconfined aquifer, although localised layers of low permeability (*eg.* clay, peat and layers of localised iron-cemented gravel) may act as local confining layers. Groundwater at the site is expected to flow in north-west direction towards Longport Street.

3.3 LOCAL GROUNDWATER USAGE

A search of local groundwater bores through The NSW Natural Resource Atlas (NRAtlas) and managed by the Department of Natural Resources revealed that three registered, water supply bores (*Ref*. Table 1), generally being used for domestic or monitoring (Ref. Appendix A).

Table 1. Summary of registered groundwater bores within 3 km of the site

Bore No.	Drilled Date / Bore Depth (mBGL)	SWL (m BGL) / Salinity *	Bore Purpose	
			Authorised Use	Intended Use
GW102402	1996 / 90.00	- / -	Domestic	-
GW106854	2006 / -	- / -	Domestic	-
GW110183	2004 / 30.00	- / -	Monitoring Bore	Monitoring Bore

SWL = Standing Water Level, * Salinity Units - not recorded, - = information not available

On the basis of the information obtained with respect to groundwater usage in the vicinity of the site, some environmental value was identified for the aquifer as a water resource. It was therefore decided to adopt groundwater quality assessment criteria for the protection of Freshwater Water Aquatic Ecosystems, in accordance with Appendix 2 of DEC 2007 *Guidelines for the Assessment and Management of Groundwater Contamination*. The adopted assessment criteria are discussed in more detail in Section 5.2.

4.0 SITE CONTAMINATION APPRAISAL

4.1 HISTORICAL AERIAL PHOTOGRAPHY REVIEW

The site history review included a search of SLIC-sourced historical aerial photographs from the NSW Department of Lands. A list of the inspected photographs is given below:

1. 20 Feb 1930, Sydney - Run 16, print 856, NSW (M3428)
2. May 1951, Sydney - Run 14, print 52, NSW (M467)
3. 19 Apr 1968, Sydney - Run 8, print 1561, NSW (M5241)
4. 6 May 1978, County of Cumberland - Run 17, print 135, NSW2713 (M1029)
5. 2 August 1986, Sydney - Run 23E, print 131, NSW3527 (M1742)
6. 4 May 1999, Sydney – Run 6, print 94-112, NSW4702 (M2171)
7. 8 Oct 2004, Sydney – Run6, print 01-13, NSW4877 (M2451)

Copies of the aerial photographs are kept in the offices of EI and are available for inspection upon request.

1930

The 1930 aerial photograph revealed the site to be dominantly occupied by what is likely to be residential dwellings along the southern and eastern boundaries (Husdon St and Old Canterbury Rd). The north-eastern lots (currently known as lot 6, 7 and 8 in DP 977044) to the intersection of Old Canterbury Rd and William St are occupied by sheds. Large sheds occupy the western side of Brown Street from Longport St (northern boundary) and across to the railway lines over the western boundary. The residential dwellings in the north-western corner of the site (intersection of Longport St and the railway overpass) still exist.

1951

In the 1951 aerial photograph, the residential dwellings along the southern boundary still exist. The roofline of the current building can be seen in the centre to central western boundary of the site. The buildings that currently exist on the northern boundary (Longport St) of the site between the railway overpass and Brown Street appear to have been built.

1968

In the 1968 aerial photograph the residential lots along Hudson Street have been built out by large sheds with three residential lots remaining along Old Canterbury Rd from its intersection with Hudson St. Access to the site from Old Canterbury Rd had been completed.

1978

The 1978 aerial photograph showed very similar details as the 1968 photo, with the exception that the three residential lots along Old Canterbury Rd from its intersection with Hudson St had been demolished and remain vacant. The large awning in the centre of the site has been built.

1986

The 1986 aerial photograph showed that the site had undergone very little change since the 1978 photograph.

1999

The 1999 aerial photograph showed that the office area extending from the eastern wall of the sheds along Hudson St had been built. The north-eastern lots (currently known as lot 6, 7 and 8 in DP 977044) to the intersection of Old Canterbury Rd and William St are demolished and vacant. The sheds on the western side of Brown St across to the railway lines were replaced and the associated offices to the north of centre off Brown St had been built and the site appears similar to as it does currently.

2004

The 2004 aerial photograph showed little change from the 1999 photograph.
In summary, the site appeared to have been partially commercial and partially residential from at least 1930. Changes over time were noted and included expansion and upgrades to current existing structure and facilities.

4.2 COUNCIL RECORDS SEARCH

A search of site history records held by Marrickville Council was initiated on 23rd July, 2009. The search was processed and EI attended council chambers on 28th August, 2009. The Council Files were limited and included records dating back to 1955, relating to the following uses, development applications and /or complaints.

Property	REFERENCE	DESCRIPTION
72 -76 Old Canterbury Rd	Permit 1130	9/05/1955 – additions to the factory used for furniture manufacturing rear wall of fibro to provide for future extensions
	DA/295/98	▪ Lodged 29/06/98 – two strata titled factory factory/warehouse units with basement parking ▪ Withdrawn 23/07/98 ▪ Copy of SEE Report (requested)

	DA/200.200650	▪ Lodged 17/09/02 – use of the land for temporary storage of scaffolding, building materials and ancillary equipment ▪ Refused 11/12/02
78-90 Old Canterbury Rd	TP/43/74	▪ Lodged 25/01/74 – proposed motor vehicle and motor body repair work shop ▪ Approved ???
	DA/93/83	▪ Lodged 21/03/83 – install a 7,500L LPG tank and dispenser by Mobil Oil Australia P/L ▪ Approved 20/04/83
	DA/448/87	▪ Lodged 17/08/87 – use of premises for the packing warehouse and distribution of packing products ▪ Approved 3/09/87
	DA/152/93	▪ Lodged 20/04/93 – car and truck repair centre ▪ Approved ???
	DA/324/94	▪ Lodged 4/08/94 – to erect a two storey building containing offices, storage, amenities and parking in association with industrial use of the site ▪ Approved 11/11/94
	DA/535/94	▪ Lodged 9/09/94 – proposed office extension and car parking to existing warehouse ▪ Approved 27/11/94
	DA/267/95	▪ Lodged 22/06/95 – to erect a two storey building to be used as an office in association with the existing warehouse ▪ Approved 26/07/95
6 William St	DA/84/97	▪ Lodged 19/02/97 – existing rear skillow type structure to be rebuilt and renovated as well as some internal upgrading ▪ Approved 18/04/97
2 William St	TP/134/78	▪ Lodged 16/05/78 – use of a galvanised iron shed at the rear of the premises as a home industry for the forming by hand of decorative, carved and concrete balastrades and pillars using only a 15hp mixer, involving two employees on the premises ▪ Approved 9/06/78
	DA/324/01	▪ Lodged 15/05/01 – Storage of three storage containers and parking of six vehicles overnight ▪ Refused 25/09/01
1-2 Brown St	DA/605/86	▪ Lodged ??? – erect a new factory building to be used for warehousing and distribution of disposable packing products and the manufacturing of packing containers ▪ Approved 6/07/87

Council records data indicated that the majority parts of the site has been used by commercial/light industrial activities since at least 1955, including furniture manufacturing, storage/warehouse and distribution, car and truck repairs as well as an installation of a large LPG tank and dispenser by Mobil in 1974.

4.3 HAZARDOUS CHEMICALS AND REGULATORY COMPLIANCE

On 22nd September, 2009, an on-line search of the *Contaminated Land – Record of EPA Notices* was conducted, this being a database that is maintained by the NSW DECC. This search confirmed that the NSW DECC has no current involvement, or regulation, under Section 58 of the *Contaminated Land Management Act 1997* for the NSW property identified as 78-90 Old Canterbury Road, Lewisham, NSW. Section 58 of the *CLM Act 1997* relates to the investigation, remediation and management of sites where contamination poses a significant risk of harm, and includes Sections 35 and 36 of the *Environmentally Hazardous Chemicals Act 1985*.

4.4 WORKCOVER NSW AUTHORITY SEARCH

A search of WorkCover Authority records relating to the site was requested on 14th August, 2009 by EI, on behalf of the property owner. Correspondence from the Dangerous Goods Licensing Section was subsequently received by EI on 18th August, 2009, which confirmed that a Search of Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover were conducted and the records pertaining to the site premises was forwarded to EI.

The search identified some records held under the WorkCover Authority's Stored Chemical Information Database (SCID) pertaining to the site. An extract of the records is available in Appendix B.

A summary of the records relating to application for licence (or amendment or transfer of license) for the keeping of dangerous goods are as follows:

- In 1948, Sanitarium Health Food Company registry under the Inflammable Liquid Act, 1915 one single Underground Storage Tank (UST) used to store Mineral Spirit (Inflammable Liquid) with capacity of 1100 gallons.

- In 1949, a second UST also to be used by Sanitarium Health Food Company to store mineral spirit (Inflammable Liquid) having a capacity of 800 gallons was registered under the Inflammable Liquid Act, 1915.

- Under the Inflammable Liquid Act, 1915 in 1955, records indicated that a third 500 gallons USTs to be also used by Sanitarium Health Food Company to store mineral spirit (Inflammable Liquid) were registered.

- In 1972, the WorkCover records indicate that three USTs with capacities of 3000, 2000 and 1000 gallons were already present on site, however no previous records were found related to existence of these USTS. Furthermore the records also indicate that three additional Aboveground Tanks (ASTs)with capacities of 1000 gallons were also registered by Sanitarium Health Food Company Under the Inflammable Liquid Act, 1915.

- In 1976, Sanitarium Health Food Company submit an amendment to the 1972 Inflammable Liquid Act, 1915 records were an additional 11,700 litres UST were presented.

- The 1983 the Department of Industrial Relations Dangerous Goods ACT 1975 records indicate that while an additional AST with 7500 litres was present on site the UST with 11700 litres formerly present on the 1976 records were not listed.

At the time of this assessment no evidence of any of the USTs and ASTs listed by WorkCover records were found to be still present on site. Furthermore, no written records indicating that any USTs or ASTs had been removed indicating that potentially a number of UST may still present on site.

A single UST (which was not in commission) was found located within the driveway leading to Morgan Expo Hire, approximately 10m of Brown Street. However, this was inconsistent with the WorkCover NSW records.

4.5 LAND TITLES INFORMATION

A historical land titles search was conducted through Service First Registration Pty Ltd (Legal Searchers). The detailed results of the search are presented in the *Land Titles Information Extracts* presented in Appendix C, which showed in summary that these lots were previously owned in the names of:

	As regards that part marked 1 (Ref. Figure 3)	
22.06.1907	Robert John Lukey	Vol 1786 Fol 57
	(Secretary for the time being of the Australian Gas Light Company)	
18.09.1913	Chief Commissioner for Railways and Tramways	Vol 2708 Fol 38
19.09.1919	Resumed and dedicated for Public Road	
	Subsequently closed prior to 22.05.1940	
22.05.1940	Loveridge and Hudson Pty Limited	Vol 5141 Fol 3
21.07.1983	Melocco Pty Limited	Vol 5141 Fol 3
23.07.1987	Australasian Conference Association Limited	Vol 5141 Fol 3
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 2 (Ref. Figure 3)	
22.06.1907	Robert John Lukey	Vol 1786 Fol 57
	(Secretary for the time being of the Australian Gas Light Company)	
18.09.1913	Chief Commissioner for Railways and Tramways	Vol 1786 Fol 57
16.05.1916	Thomas Allsopp *(Flour Miller)*	Vol 2678 Fol 129
31.12.1919	Frederick Allsopp	Vol 2678 Fol 129

	John Arthur Campbell	
	Thomas Plimsoll Allsopp	
	(No occupations listed)	
	(We have not investigated the Transmission Application)	
12.09.1921?	Frederick Allsopp	Vol 2678 Fol 129
	Thomas Plimsoll Allsopp	
12.05.1921	Horace Bately Allard *(Public Accountant)*	Vol 2678 Fol 129
	Christian Wilhelm Koefoed	
	(Acting Consul for Denmark)	
	George Herbert Turner *(No occupation listed)*	
21.09.1923	Lewisham Ice and Cold Storage Company Limited	Vol 2678 Fol 129
06.06.1929	Loveridge and Hudson Pty Limited	Vol 4322 Fol 127
09.04.1980	Melocco Pty Limited	Vol 4322 Fol 127
23.07.1987	Australasian Conference Association Limited	Vol 4322 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 3 (Ref. Figure 3)	
22.06.1907	Robert John Lukey	Vol 1786 Fol 57
	(Secretary for the time being of the Australian Gas Light Company)	
18.09.1913	Chief Commissioner for Railways and Tramways	Vol 1786 Fol 57
16.05.1916	Thomas Allsopp *(Flour Miller)*	Vol 2678 Fol 129
31.12.1919	Frederick Allsopp	Vol 2678 Fol 129
	John Arthur Campbell	
	Thomas Plimsoll Allsopp	
	(No occupations listed)	
	(We have not investigated the Transmission Application)	
	Thomas Plimsoll Allsopp	
12.05.1921	Horace Bately Allard *(Public Accountant)*	Vol 2678 Fol 129
	(Acting Consul for Denmark)	
	George Herbert Turner *(No occupation listed)*	
21.09.1923	Lewisham Ice and Cold Storage Company Limited	Vol 4324 Fol 11
17.06.1930	Amalgamated Rabbit and Skin Export Company Limited	Vol 4324 Fol 11
	Agnes Wall *(Married Woman)*	38 to 41 incl.
	Edith Lillian Wall *(Widow)*	
15.10.1987	Raydraw Pty Limited	11/774322
Leases: -		

18.08.1941	Australasian Conference Association Limited	Merged 1947
	As regards that part marked 4 (Ref. Figure 3)	
As to that part marked 4A		
22.11.1912	Amelia Barrett Stevens *(Widow)*	Book 982 No. 937
08.07.1930	Priscilla Amelia Stevens *(Spinster)*	Book 1608 No. 611
03.12.1936	Percy McDowell Wade *(School Teacher)*	Book 1767 No. 293
01.04.1947	Alan Herbert Forbes *(Minister of Religion)*	Book 2014 No. 739
31.05.1949	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
As to that part marked 4B		
11.09.1906	Priscilla Scott *(Married Woman)*	Book 811 No. 296
08.08.1925	Gilbert Wesley Phillips *(Electrician)*	Book 1399 No. 415
12.08.1947	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
As to that part marked 4C		
29.12.1910	Chief Commissioner for Railways and Tramways	Book 972 No. 329
	(Now Commissioner for Railways)	
19.09.1924	Lewisham Ice and Cold Storage Company Limited	Book 1360 No. 774
20.06.1928	Gilbert Wesley Phillips *(Electrician)*	Book 1519 No. 394
12.08.1947	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
26.05.1903	Margaret Crittle *(Widow)*	Book 736 No. 515
25.08.1934	Leo Maroc *(Railway Employee)*	Book 1697 No. 471
02.09.1953	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 6 (Ref. Figure 3)	

19.05.1910	Patrick James Walsh *(Railway Storeman)*	Book 906 No. 695
04.04.1926	Mary Jane Walsh *(Widow)*	Book 1984 No. 52
08.12.1955	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 7 (Ref. Figure 3)	
25.11.1885	Robert Elson Acland *(Plasterer)*	Book 367 No. 686
	(& His deceased estate)	
18.11.1947	John Thomas Parnell *(Employee of the Australian Gas*	Book 2037 No. 440
	Light Company	
05.04.1956	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 8 (Ref. Figure 3)	
12.01.1924	Percy Tressider *(Caterer)*	Book 1331 No. 706
08.03.1949	Lewis Ward *(Company Director)*	Book 2079 No. 583
	Eric Ward *(Company Director)*	
01.09.1959	Eric Ward *(Company Director)*	Book 2757 No. 4
14.10.1966	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 9 (Ref. Figure 3)	
27.03.1905	Thomas Ryan *(Carter)*	Vol 1597 Fol 138
05.03.1923	Barry Flaherty *(Laborer)*	Vol 1597 Fol 138
18.07.1938	William Mounser *(Electrician)*	Vol 1597 Fol 138
03.03.1948	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 10 (Ref. Figure 3)	
06.11.1908	Mary Elizabeth Witherford *(Spinster)*	Vol 1920 Fol 238
15.03.1916	Anne Hynds *(Widow)*	Vol 1920 Fol 238
15.10.1923	Andrew Jones *(Railway Employee)*	Vol 1920 Fol 238
04.01.1957	Margaret Clare Baistow *(Married Woman)*	Vol 1920 Fol 238

06.08.1969	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 11 (Ref. Figure 3)	
14.05.1908	Ethel May Stewart *(Married Woman)*	Vol 1920 Fol 96
11.03.1912	Edgar Whitbread *(Signwriter)*	Vol 1920 Fol 96
	Annie Harriett Whitbread *(Married Woman)*	
17.09.1931	Annie Harriett Whitbread *(Widow)*	Vol 1920 Fol 96
16.06.1950	Edgar Raymond Whitbread *(Designing Engineer)*	Vol 1920 Fol 96
	Annie Olive Coles *(Married Woman)*	
	(We have not investigated the Transmission Application)	
05.12.1950	Walter Hodge *(Green Grocer)*	Vol 1920 Fol 96
	Doris May Hodge *(Married Woman)*	
25.06.1959	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 12 (Ref. Figure 3)	
04.02.1908	Alicia Campbell *(Married Woman)*	Vol 1496 Fol 192
08.08.1947	Eleanor Annie Campbell *(Spinster)*	Vol 1496 Fol 192
	(We have not investigated the Transmission Application)	
03.12.1957	Max Mervyn Bullock *(Furnace Hand)*	Vol 1496 Fol 192
	Lillian Sophia Bullock *(Married Woman)*	
13.09.1973	Lillian Sophia Bullock *(Widow)*	Vol 1496 Fol 192
25.02.1974	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 13 (Ref. Figure 3)	
17.04.1905	Mary Elizabeth Witherford *(Spinster)*	Vol 1603 Fol 39
15.03.1916	Anne Hynds *(Widow)*	Vol 1603 Fol 39
15.10.1923	Andrew Jones *(Railway Employee)*	Vol 1603 Fol 39
04.01.1957	Margaret Clare Baistow *(Married Woman)*	Vol 1603 Fol 39
06.08.1969	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 14 (Ref. Figure 3)	

13.11.1919	Winifred Mary Hardwick *(Married Woman)*	Vol 3156 Fol 79
31.01.1921	Reginald Sylvester Foster *(Government Railway Clerk)*	Vol 3192 Fol 7
	Elsie Phoebe Foster *(Married Woman)*	
12.11.1923	Margaret Anderson *(Married Woman)*	Vol 3192 Fol 7
23.01.1962	John Joseph Anderson *(Storeman)*	Vol 8341 Fol 226
	Alexander Francis Anderson *(Member of the Armed Forces)*	
	Gwendoline Margaret Rogers *(Married Woman)*	
	(We have not investigated the Section 94 Application)	
03.10.1962	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 15 (Ref. Figure 3)	
13.11.1919	Winifred Mary Hardwick *(Married Woman)*	Vol 3192 Fol 8
07.07.1921	Lydia Whitham *(Married Woman)*	Vol 3192 Fol 8
14.10.1921	Henry Duggan O'Brien *(Clerk)*	Vol 3192 Fol 8
	Cecelia O'Brien *(Married Woman)*	
21.01.1928	Mary Jane Fahy *(Spinster, Home Duties)*	Vol 3192 Fol 8
02.05.1956	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
Easements: -		
1912 and 1919	Stormwater Channel	
	As regards that part marked 16 (Ref. Figure 3)	
25.09.1915	Joseph Wells *(Contractor)*	Vol 2609 Fol 222
28.01.1918	Peter Bailey *(Small Goodsman)*	Vol 2862 Fol 6
	Ada Margaret Bailey *(Married Woman)*	
13.01.1922	Norman Paul King *(Electrician)*	Vol 2862 Fol 6
13.08.1925	Herbert Henry Papworth *(Book Maker)*	Vol 2862 Fol 6
28.10.1931	Susan Papworth *(Widow)*	Vol 2862 Fol 6
	Edgar Henry Papworth *(Clerk)*	
	Herbert Ernest Papworth *(Laborer)*	
	(We have not investigated the Transmission Application)	
24.04.1945	Edgar Henry Papworth *(Clerk)*	Vol 2862 Fol 6
11.07.1945	Jack Craig & Sons Pty Limited	Vol 2862 Fol 6
26.03.1956	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

Easements: -		
1914	Stormwater Channel	
	As regards that part marked 17 (Ref. Figure 3)	
09.01.1919	Joseph Wells *(Contractor)*	Vol 2903 Fol 94
19.03.1919	Kenneth MacKenzie *(Ship Wright)*	Vol 2903 Fol 94
21.06.1927	Leslie Joseph Mildenhall *(Store Keeper)*	
08.11.1927	Henry James Jackson *(Fuel Merchant)*	
01.08.1930	Richard St Lawrence Smith *(Retired Civil Servant)*	Vol 2903 Fol 94
03.04.1936	Annie Sarah Smith *(Widow)*	Vol 2903 Fol 94
	(We have not investigated the Transmission Application)	
09.08.1948	Mabel Stein *(Married Woman)*	Vol 2903 Fol 94
	(We have not investigated the Transmission Application)	
13.02.1952	Millicent Grace Smith *(Spinster)*	Vol 8303 Fol 30
	(We have not investigated the Transmission Application)	
08.08.1961	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
Easements: -		
1914	Stormwater Channel	
	As regards that part marked 18 (Ref. Figure 3)	
09.01.1919	Joseph Wells *(Contractor)*	Vol 2903 Fol 93
27.08.1919	Henry Seavers *(Domestic Engineer)*	Vol 2903 Fol 93
10.03.1920	War Service Homes Commissioner	Vol 2903 Fol 93
30.06.1926	Clara Elliott *(Married Woman)*	Vol 2903 Fol 93
19.09.1938	Percy John Morley *(Motor Bus Driver)*	Vol 4971 Fol 191
	(We have not investigated the Transmission Application)	
15.08.1938	Leslie Norman Hestelow *(Clerk)*	Vol 4971 Fol 191
23.11.1967	Robert Dennis Hull *(Salesman)*	Vol 4971 Fol 191
19.12.1967	Roberto Passerini *((Floor Tiler)*	Vol 4971 Fol 191
	Anna Maria Passerini *(Married Woman)*	
14.12.1973	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
Easements: -		

1914	Stormwater Channel	
	As regards that part marked 19 (Ref. Figure 3)	
13.08.1917	Leslie Norman Hestelow *(Clerk)*	Vol 2749 Fol 88
17.02.1961	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	As regards that part marked 20 (Ref. Figure 3)	
-	This parcel of land was formerly part of Brown Street	
	which was shown as a Road Circa 1907	
-	This part was subsequently closed by notification	
	in Government Gazette in 1964	
08.01.1965	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322
	Search continued as to the whole of the subject lands	
15.03.1984	Callmask Pty Limited	11/774322
08.08.2005	# Lewisham Estates Pty Ltd	11/774322
	# Current Registered Proprietor	
Leases, continued: -		
14.06.1979	Sydney County Council (Substation No. 4427)	
	Together with a Right of Way and easement for electricity	
	purposes.	
	The leases listed on the historical identifier 11/774322	
	have not been investigated	
11.02.1976	Easements to Drain Water 0.535 wide (D.P. 580963)	

In summary, it would appear that the site may have been residential until 1920 with commercial/industrial activities had commenced to 1950's. The activities from 1950' onwards could not be ascertained from the land titles search.

4.6 SITE WALKOVER INSPECTION

Mr Damien Hart (Senior Earth Scientist) and Mr Nik Kontos (EI, Principal – Environmental Engineer) made the following observations during an inspection of the site on 3rd August, 2009. The site comprised of an irregular shaped block of land within a residential/light industrial uses area. It was occupied by a number of commercial/light industrial businesses across the site as well as two residential buildings (*Ref*. Figure 2).

North-western Portion of the Site:

- At the time of this assessment the majority of the north-western part of the site was occupied by Morgan Expo Pty Ltd (Morgan Expo), a function hire business. A large high clearance brick warehouse with metal roof used as storage by Morgan Hire was found located towards the southern part of this section of the site. Immediately to the north of this area a single level brick with terracotta roof tiles and a parking basement-like building used by Morgan Hire as office was identified. Towards the eastern part of this area of the site (facing Brown Street) a workshop/storage shed area was identified.

- A double storey residential double brick building with tiled roof was found towards the north-western site boundary. This building was found to be facing Hudson Street and occupied by tenants.

- Apart from the warehouse, a large amount of function hire equipment (i.e. furniture, display accessories, audio visual, pot plant, etc.) was found and no access to any of the facilities was not possible during the site inspection, as these buildings were either locked or occupied by tenants or both. Some partially used small (5 litre) drums of paint and thinners were found within the north eastern part of the warehouse (close to the loading dock area), however no indications of any stains or corrosion was identified.

- The access to the warehouse loading dock or ramp (both located toward the north eastern section of the warehouse), car parking area as well as other building/facilities was through a driveway located between the office and workshop/storage shed area leading to Brown Street.

- A number of cars were found to be parked across the designed parking area in this section of the site.

- As mentioned above (Section 4.3), a single UST (which was not in commission) was found located within the driveway leading to Morgan Expo Hire, approximately 10m of Brown Street.

- Access to soils in this section of the site was limited to a small garden bed located adjacent to the western side of the office building as well as grassed area located immediately to the east of the residential dwelling and to the north of the workshop/storage shed, limited by the intersection of Hudson and Brown Street. All other areas were found to be either concrete paved in generally reasonable condition and asphalt surface in poor to reasonable condition.

South-western Portion of the Site:

- During this assessment the south-western part of the site was comprised by three separate operating businesses; T.K. Wrapping Pty Ltd, ALE Holdings Pty Ltd, Clarke Packaging Pty Ltd. This part of the site was 100% covered by a large interconnected high clearance building complex.

- While T.K. Wrapping Pty Ltd and Clarke Packaging Pty Ltd occupied the northern and western part of the portion and used mainly for wrapping and packaging supplies, ALE Holdings Pty Ltd used the south eastern part of this area of the site as printing.

- The buildings that accommodate these businesses comprised primarily of double brick walls supporting a metal and timber trussed saw tooth roof of corrugated (Asbestos Containing Materials (ACM) sheeting.
- Access to soils was limited to cracks and imperfections in the concrete flooring that covered this portion of the site entirely. The concrete flooring was observed to be in reasonable to good condition with the exception of;

    I. extensive surface staining around what appears to be a wash bay facility in the south-western corner;

    II. surface staining around a vehicle hoist and associated workshop facility in the centre of this segment of the site;

    III. surface staining around a printing machine slightly west of the centre of the portion; and

    IV. extensive surface staining in the north-western corner of the portion extending in 20m from the boundary.

- Synthetic mineral fibre pipe insulation was found along the western boundary of this portion of the site.

- The electrical distribution for this section of the site was found mounted to an internal double brick wall slightly west of the centre of this portion. Electricity appeared to be distributed both underground from this point as well as via an intricate network of cable conduit construction lining the roofing trusses and internal supports.

- Within this section of the site it is included a printing area with associated ink/paint storage in the south-eastern corner. Three large printing machines were in observed with an estimated 100 litres of ink and three 20 litre drums of Coates reducer - ethanol

was stored on open shelving against a south eastern wall. The area potentially is exposed to the various printing consumables such as washing/flushing chemicals, drying chemicals and coating chemicals.

- Two whitegoods storage areas were observed in the north-eastern corner and near the south-western corner comprising some 100-200 units collectively of used washing machines, clothes drying machines, fridges, microwaves, dishwashers and electric and gas ovens and stovetops.

- Approximately 40 drums of 20 litre of ink/paints and a 50 litre drum of Coates reducer – ethanol were observed in the north-western corner of this portion of the site.

South-eastern Portion

- The south-western portion of the site comprised two operating businesses; Dasch Pty Ltd, a retail business; and Carewell Pty Ltd, a healthcare equipment supplier.

- Access to soils within this part of the site was limited to cracks and imperfections in the concrete flooring that covered site entirely. The concrete flooring was observed to be in reasonable to good condition with no staining observed.

Central Portion and bus parking area

- The central portion of the site comprised a bus business and parking area with an adjacent single level brick dwelling with tiled roof to the east.

- Access to soils was limited to imperfections in the asphalt surface of the bus parking area and a car parking facility and entrance off Old Canterbury Road with the exception of a narrow stretch of garden bed separating the bus parking area from Brown Street and William Street. The asphalt surface was observed to be in reasonable condition.

- Concrete pavement dominated an unloading area to the south-west of this portion of the site. The concrete appeared in reasonable to good condition.

- Mechanical restoration of a bus was found to be in operation in the south-western corner of this portion with extensive surface staining in the area. with 20 litre drums of "Normal Propanol" were observed in this area.

- An electricity sub-station occupied the north-eastern area of the portion on the western side of the entrance off Brown Street. The substation itself was mounted on a single concrete slab which appeared in reasonable condition. Access to soils was limited to the edges of the concrete slab adjacent to the building to the north and east and concrete pavement to the south and west.

Vacant Land Portions

- Two areas of the site were vacant, a narrow strip of land on the southern side of Longport Street and the eastern side of the site.

- Two weed grassed fill/soil stockpiles were found on the vacant land on the eastern side of the site (facing Old Canterbury Road) containing fragments of concrete and brick, sand, plastic, glass and metal.

- Moderate to thick grass covered both areas with a scattering of general street rubbish concentrating toward the perimeters.

Residential Dwellings

- Two residential dwelling were located on the site; a two storey double brick with tiled roof dwelling in the north-eastern corner of the site and a double brick single storey tiled roof dwelling adjacent to the bus parking area as discussed above.

4.7 AREAS AND CONTAMINANTS OF ENVIRONMENTAL CONCERN

After a detailed site walkover inspection and a desk study the particular areas of environmental concern (AEC) were as follows (*Ref.* Table 2):

Table 2. Summary of Potential Areas and Chemicals of Environmental Concern

Potential AEC	***Potentially contaminating activity***	***COCs***
1. Areas where vehicles are currently parked and USTs	Leakage of petroleum hydrocarbons and/or other organic compounds	Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), total petroleum hydrocarbons (TPHs), the monocyclic aromatic hydrocarbons *benzene*, *toluene*, *ethyl-benzene* and *xylenes* (BTEX) and polycyclic aromatic hydrocarbons (PAHs)
2. Areas close to buildings and other painted structures	Leaching or weathering of contaminants potentially contained in building materials within the current or former structures on the site soils (i.e. lead from lead based paint, zinc from galvanised corrugated iron and asbestos from fibrous cement sheeting).	Heavy Metals & Asbestos in soils
3. Buildings incorporating asbestos-containing materials	Mobilization of asbestos fibres during building maintenance or demolition	Respirable Asbestos fibres
4. Buildings incorporating PCBs-containing materials	Mobilization of PCBs during building maintenance or demolition	Polychlorinated Biphenyls (PCBs)
5. Fill of unknown origin, such as underneath the existing buildings, driveways and existing carpark	Contaminated fill may have been imported to the site for use as backfill material to raise ground elevations	Heavy Metals, TPH, BTEX, PAH, organochlorine pesticides (OCPs), organophosphate pesticides (OPPs) and PCBs

4.7.1 Potential Chemicals of Concern

Soil and groundwater sampling and associated laboratory analytical testing were therefore deemed necessary for the following parameters of concern:

- heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc);
- total petroleum hydrocarbons (TPHs);

- the monocyclic aromatic hydrocarbons *benzene, toluene, ethyl-benzene* and *xylenes* (BTEX);

- polycyclic aromatic hydrocarbons (PAHs);

- organochlorine pesticides (OCPs);

- organophosphate pesticides (OPPs); and

- polychlorinated biphenyls (PCBs).

This list includes standard parameters recommended under the EPA (1994*) Table 1 Minimum Soil Sampling Protocol* for imported fill, as well as the DUAP / EPA (1998) *Appendix A. Industries and Chemicals Used*.

4.7.2 Hazardous Materials

It should be noted that a Hazardous Materials Audit (HMA) was not part of the scope of this assessment, and should be carried out if required prior to site demolition. A HMA should ensure that hazardous materials that may have been used within the structural components of all buildings and infrastructure are adequately addressed to protect site personnel from risk of exposure.

5.0 SAMPLING, ANALYTICAL AND QUALITY PLAN

5.1 DATA QUALITY OBJECTIVES (DQO)

In accordance with international environmental standards, the process of developing Data Quality Objectives (DQO) was used by the EI assessment team to determine the appropriate level of data quality needed for the specific data requirements of the project. The DQO process that was applied for this assessment is documented in Section 5.2.

5.2 THE DQO PROCESS

Step 1 - Statement of the Problem

Lewisham Estate Pty Ltd is proposing to rezone the 13,130m^2 site from industrial zone to a residential zone. The site is occupied by an untenanted large commercial/industrial complex covering approximately 80% of the site footprint with an UST apparently decommissioned.

A historical search was conducted and the findings identified sources of potential contamination as outlined in Section 4.6 (above).

The laterally extensive clay soils were considered to indicate that the spreading of any leaked or spilled fluids would probably be physically restricted to the location of the contamination incident.

The EI team members for the project were as follows:

- Damien Hart – Project Manager (Engineer and Field Work Supervisor)
- Eric Gerges – Engineer (Decision Maker)
- Nik Kontos – Principal Environmental Engineer (QC & Technical Review)
- Dr Vagner Jorden – Senior Principal (Hydrology & Environmental Science)

In completing this environmental assessment the EI team had access to the following resources: relevant government authorities and associated databases, Sydney-based drilling and excavation contractor firms, registered land surveyors and Sydney-based environmental laboratories.

Step 2 – Decision Identification

Historical information indicated that the site was subject to contamination associated with the activities across the site including former commercial/light industrial activities, potential ACM fibro structures, USTs as well as potential for imported filling. The concentration ranges for each identified, potential chemical of concern (COC) in soil or groundwater could not be quantified prior to EI's Field Investigation, as EI's was not made aware of previous field investigations conducted on the site.

To assess the feasibility of the site for the proposed rezoning from industrial to residential land use, the EI team would make the following decisions: Is site soil and groundwater quality suitable for the intended land use? Will site soils or groundwater require remediation or treatment and special management before the site can be used for the intended commercial purposes?

Step 3 – Inputs to Decision

It was decided that the investigation would involve soil sampling from twenty five (25) test bores, distributed across the entire site in a systematic sampling pattern. With a site area of approximately 13,130m^2 this would produce an equivalent sampling density within the minimum sampling points required for site characterisation under NSW EPA (1995) Sampling Design Guidelines.

It was initially decided that three groundwater monitoring bores would be located across the site to establish groundwater flow direction and groundwater quality changes along the groundwater flow path.

Based on previous findings relating to operational site history, it was decided to incorporate the following analyses into the analytical plan for the assessment:

- analysis of discrete fill/soils and groundwater samples for Heavy Metals (As, Cd, Cr, Cu, Pb, Hg, Ni and Zn), TPH, BTEX, PAH and the presence of Asbestos Fibres in fill/soils; and

- analysis of composite samples, each comprising an equal mixture of fill soils from an equivalent depth interval, at three adjacent sampling locations, to characterise the site with respect to the non-volatile organic parameters OCPs, OPPs and PCBs.

The Soil Investigation Levels (SILs) and groundwater investigation levels (GILs) that would be used as the action levels for the assessment are summarised in Tables 2 and 3, respectively. Analytical methods have been selected to be relevant for the selected SILs and GILs with respect to contaminant detection limits and these are presented in detail in Appendix D, Table QC3.

Step 4 - Definition of Study Boundaries

The geographical boundary of the assessment was the site boundary, as illustrated in Figure 2. From a temporal perspective, it was considered that the findings of this assessment will hold true for as long as the site land use remains passive in nature; that is, for as long as the site is used for the proposed residential/commercial purposes and there are no activities nature taking place on-site or on the immediately adjacent properties that may compromise the current site conditions.

Table 3. Summary of Site Assessment Criteria for Soil Investigation Levels (SIL)

Parameter	Unit	PQL	SILs
Heavy Metals			
Arsenic - As	mg / kg	1	400
Cadmium - Cd	mg / kg	1	80
Chromium - Cr	mg / kg	1	400
Copper - Cu	mg / kg	1	4,000
Lead - Pb	mg / kg	1	1,200
Mercury - Hg	mg / kg	1	60
Nickel - Ni	mg / kg	1	2,400
Zinc - Zn	mg / kg	1	28,000
Total Petroleum Hydrocarbons (TPHs)			
C_6-C_9 fraction	mg / kg	25	65 [1]
C_{10}-C_{14} fraction	mg / kg	50	Total 1000 [1]
C_{15}-C_{28} fraction	mg / kg	100	
C_{29}-C_{36} fraction	mg / kg	100	
Monocyclic Aromatic Hydrocarbons (BTEX)			
Benzene	mg / kg	1	1 [1]
Toluene	mg / kg	1	1.4 [1]
Ethylbenzene	mg / kg	1	3.1 [1]
Xylenes (total)	mg / kg	2	14 [1]
Polycyclic Aromatic Hydrocarbons (PAHs)			
PAHs (total)	mg / kg	0.05-0.2	80
Benzo(a)Pyrene	mg /kg	0.05	4
Organochlorine Pesticides (OCPs)			
Aldrin + Dieldrin	mg / kg	0.1	40
Chlordane	mg / kg	0.1	200
DDT + DDD + DDE	mg / kg	0.1	800
Heptachlor	mg / kg	0.1	40
Other Organic Contaminants			
Total PCBs	mg / kg	0.1	40

SILs = Soil Investigation Levels

SILs are DEC 2006 *Column 2 Health-Based Investigation Levels for NEHF-D Health-Based Soil Investigation Levels for residential with minimal access to soil settings* including high-rise apartments and flats, unless otherwise indicated.

[1] = EPA (1994) *Threshold Concentrations for Sensitive Land Use - Soils.*

Table 4. Summary of Site Assessment Criteria for Groundwater Investigation Levels (GIL)

ANALYTE	Units	GIL	ANALYTE	Units	GIL
HEAVY METALS			***OPPs***		
Arsenic	µg/L	24	Diazinon	µg/L	0.01
Cadmium	µg/L	0.2	Fenitrothion	µg/L	0.2
Chromium III	µg/L	* 10 [1]	Malathion	µg/L	0.05
Chromium VI	µg/L	1.0	Parathion	µg/L	0.004
Copper	µg/L	1.4	***OCPs***		
Lead	µg/L	3.4	Aldrin	µg/L	0.001 [1]
Mercury	µg/L	0.6	Chlordane	µg/L	0.08
Nickel	µg/L	11	Dieldrin	µg/L	0.0002 [1]
Zinc	µg/L	8.0			
TPHs			***PCBs***		
C_6 - C_9	µg/L	NR	Total PCBs	µg/L	0.001 [1]
C_{10} - C_{14}	µg/L	Total 600 [2]	Aroclor 1242	µg/L	0.6
C_{15} - C_{28}	µg/L		Aroclor 1254	µg/L	0.03
C_{29} - C_{36}	µg/L				
BTEX			***Phenolics***		
Benzene	µg/L	950	Total Phenol	µg/L	320
Toluene	µg/L	300 [1]	2-chlorophenol	µg/L	490
Ethyl benzene	µg/L	150 [2]	4-chlorophenol	µg/L	220
Total Xylenes	µg/L	** 550	2, 4-dichlorophenol	µg/L	160
PAHs			2, 4, 6-trichlorophenol	µg/L	20
Total PAHs	µg/L	3.0 [1]	2,3,4,6-tetrachlorophenol	µg/L	20
Naphthalene	µg/L	16	Pentachlorophenol	µg/L	10
Benzo(a)pyrene	µg/L	0.05 [2]	2, 4-dinitrophenol	µg/L	45

GILs = groundwater investigation levels;
GILs Freshwater Criteria are ANZECC/ARMCANZ (2000) 95% Freshwater Trigger values, unless otherwise indicated.
* = ANZECC/ARMCANZ (2000) provides no current freshwater trigger value for Cr III. NEPC (1999) GIL Total Chromium is 10 mg/L.
** = ANZECC/ARMCANZ (2000) freshwater trigger value for o-xylene is 350 mg/L + for p-xylene is 200 mg/L.
1 = NEPC (1999*) Groundwater Investigation Levels for the protection of freshwater aquatic ecosystems*, NEPM.
2 = Dutch (2000) *Groundwater Intervention Values (level at which groundwater remediation is required*, The Netherlands).
NR = no currently available published criteria.

Step 5 - Decision Rule

The data acceptance criteria for Field Quality Control and Laboratory Quality Control samples for the tested chemicals of concern are detailed in Appendix D, Table QC5. For the purposes of this assessment the investigation team have attempted to ensure that action levels for all tested parameters exceed the measured detection limits.

The site investigation team was interested in the 95% Upper Confidence Level average for each chemical of concern (COC) tested positive in the soil samples collected from the same stratum (or sampling depth). The Action Level for each COC will be the respective SIL value as detailed in Table 3. With respect to the groundwater, the investigation team was interested in the total concentration for each chemical of concern (COC) tested positive in the groundwater samples as detailed in the Freshwater Criteria column of Table 4.

The decision rules for the investigation were:

Soils – If the concentration for all tested investigation samples from the same sampling depth is below the SILs for the respective COC, then the site soils will be defined as unaffected with respect to that contaminant. If, however, the SIL value is exceeded, then additional investigation works will be required, to delineate the lateral and vertical extent of the contamination and/or remediation works will be required to remove affected soils from the site.

Groundwater – If the total concentration for each tested groundwater sample is below the respective GIL, then the groundwater at that location will be defined as unaffected for the respective contaminant. If, however, the WQC value is exceeded, then additional investigation and/or remediation works will be required, prior to re-sampling and testing.

Step 6 - Specification of Acceptable Limits on Decision Errors

Determination of possible concentration ranges:

As there were no previous field investigations conducted on the site, mean concentrations for the identified COCs could not be estimated.

Identifying the Decision Errors:

Soil – Considering that site redevelopment would involve site rezoning and further demolition of existing structures, removal of USTs and site levelling, with some soil excavations and/or soil removal, the planning team has determined that the two decision errors for each respective COC are:

a) deciding that site soils exceed the SILs when they truly do not; and

b) deciding that site soils are within the SILs when they truly are not.

Groundwater – Considering that the assessment of the groundwater is intended to determine if the site is impacting negatively on groundwater quality, the planning team has determined that the two decision errors for each respective COC are:

For groundwater flowing beneath the site:

a) deciding that groundwater quality exceeds the GILs when it truly does not; and

b) deciding that groundwater quality is within the GILs when it truly is not.

Evaluating the potential consequences of each decision error:

Soil – The consequences of deciding that the soils exceed the SILs when they truly do not, will be that additional soil investigations will need to be carried out and/or remediation of affected site soils, which will add cost and time delays to the project.

The consequences of deciding that the soils do not exceed the SILs when they truly do, will be that contaminated soils will be left unmanaged, on the site and potentially endanger

human health or pose ongoing risks to the environment. In addition, the future owners of the site may be liable for future damages and environmental cleanup costs.

Groundwater **–** The consequences of deciding that the groundwater quality exceeds the GILs when it truly does not, will be that additional groundwater investigations may be undertaken, which will add cost and time delays to the project.

The consequences of deciding that the groundwater quality does not exceed the GILs when it truly does, will be that contaminated groundwater will be left untreated and potentially endanger human health or pose ongoing risks to the environment. In addition, the future owners of the site may be liable for future damages and environmental cleanup costs, onsite and offsite in the direction of groundwater contamination movement.

Evaluating Severity of Decision Error Consequences:

The planning team concluded that:

Soil **–** The consequences of deciding that the soils do not exceed the SILs when they truly do, would be more severe near the action level since the risk of jeopardising human health and the environment outweigh the consequences of having to pay more for further investigation and/or remediation of affected soils.

Groundwater **–** The consequences of deciding that the groundwater quality does not exceed the GILs when it truly does, has the more severe consequences near the action level since the risk of jeopardising human health and the environment outweigh the consequences of having to pay more for further groundwater investigations.

Definition of the Null Hypothesis:

Soil – For soils remaining on the site and for each respective COC, the baseline condition or null hypothesis (H_o) is "the soils exceed the SILs". The alternative hypothesis (H_a) is "the soils are within the SILs".

The *false positive* decision error occurs when the null hypothesis is rejected when it is true. For soils to remain on the site, the *false positive* decision error occurs when the decision maker decides the soil is within the SILs for the respective COC when it truly exceeds the SILs.

The *false negative* decision error occurs when the null hypothesis is not rejected when it is false. For soils remaining on the site, the *false negative* decision error occurs when the decision maker decides the soil exceeds the SILs for the respective COC when it truly is within the SILs.

Groundwater – For groundwater flowing beneath the site and for each respective COC, the baseline condition or null hypothesis (H_o) is "the groundwater quality exceeds the GILs". The alternative hypothesis (H_a) is "the groundwater quality is within the GILs".

The *false positive* decision error occurs when the null hypothesis is rejected when it is true. For water present on the site, the *false positive* decision error occurs when the decision maker decides the groundwater quality is within the WQC for the respective COC when it truly exceeds the GILs.

The *false negative* decision error occurs when the null hypothesis is not rejected when it is false. For groundwater flowing beneath the site, the *false negative* decision error occurs when the decision maker decides the groundwater quality exceeds the GILs for the respective COC when it truly is within the GILs.

Decision Error Limits:

Soil – Errors that increase the probability of not carrying out additional soil investigations and/or remediation of affected soils when that action is truly required (i.e. false positive decision errors) will be considered acceptable 10% of the time for each respective COC. Errors that increase the probability of carrying out additional soil investigations and/or remediation of affected soils when that action is not required (i.e. false negative decision errors) will be considered acceptable 10% of the time for each respective COC.

Water – Errors that increase the probability of not carrying out further investigations of water quality when that action is required (i.e. false positive decision errors) will be considered acceptable no more than 10% of the time for each respective COC. Errors that increase the probability of carrying out further investigation of water quality when that action is not required (i.e. false negative decision errors) will be considered acceptable no more than 10% of the time for each respective COC.

Step 7 – Optimised Design for Data Collection

Soil sampling procedures that would be implemented to optimise data collection for achieving the DQOs included the following:

- Sampling from a systematic, triangular sampling grid;
- Stratified sampling from selected depth intervals to characterise fill soils, separately to natural soils; and
- Sample compositing for non-volatile COCs (except heavy metals, which were sampled and tested as discrete samples).

Groundwater quality is not likely to be significantly contaminated as low permeability clays cover most of the site, thereby offering limited conduits for the vertical migration of contaminants to the deeper groundwater system. Nevertheless, it was decided that any exceedance of the GILs would be reviewed independently to determine the potential cause and reassessment would be undertaken for confirmation (if warranted).

In addition to the above, groundwater sampling procedures that would be implemented to optimise data collection for achieving the DQOs included the following:

- sampling from predefined, monitoring bore locations that address groundwater conditions at upgradient, and downgradient locations; and

- the use of established groundwater monitoring procedures that are consistent with international environmental standards.

5.3 DATA QUALITY INDICATORS

5.3.1 Completeness

Data completeness is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study. If there is insufficient valid data, determined by the other data quality objectives, then additional data would be required to be collected.

5.3.2 Data Comparability

Data comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples, ensuring analysing laboratories use consistent analysis techniques and reporting methods. Reporting of results was done in

consistent units and nomenclatures, and comparability was achieved by ensuring that precision and accuracy objectives were met.

5.3.3 Data Representativeness

Data representativeness expresses the degree which sample data accurately and precisely represents a characteristic of a population or an environmental condition. Representativeness was achieved by collecting samples at pre-determined locations across the site (dependent on subsurface characteristics), and by taking an adequate number of samples to achieve the intended objectives of this round of works – that is, to assess the regime at the site based on a preliminary assessment of potential contamination risk. Consistent and repeatable sampling techniques and methods were utilised throughout the sampling, as described.

5.3.4 Precision

Data precision measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples. The criterion used for the assessment of RPDs is based on guidelines given in **AS4482.1** (2005) and laboratory criteria. If duplicate results are not within the acceptable RPDs, investigation into the cause is initiated. If a cause cannot be determined the validity of the data is questioned.

The proposed acceptable ranges for Relative Percent Difference (RPD) for duplicate samples are detailed in Table QC5, Appendix D.

RPD is calculated as the absolute value of the difference between the initial and repeat result divided by the average of the two results expressed as a percentage. The overall success is based on assessment of the data set as a whole and not on individual acceptance or exceedance within the data set.

5.3.5 Accuracy

Data accuracy measures the bias in a measurement system. Accuracy can be undermined by such factors as field contamination of samples, poor preservation of samples, poor sample preparation techniques and poor selection of analysis techniques by the analysing laboratory. The accuracy of the laboratory data that is generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. For reference laboratory methods (eg, USEPA methods) the following levels of accuracy should generally be achievable within 15 % of:

- the expected value of a certified reference material of similar matrix; or

- the value obtained by a separately validated and recognised quantitative method for the sample matrix.

Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards. Accuracy of field works is checked by ensuring no contamination is detected in field and trip blanks.

6.0 ASSESSMENT METHODOLOGY

6.1 SITE CONTAMINATION ASSESSMENT STRATEGY

In order to comply with the minimum sampling density requirements recommended under the EPA (1995) *Sampling Design Guidelines* for a site area of approximately 13,130m^2, as well as the EPA (1994) *Minimum Soil Sampling Protocol* for imported fill soils, twenty five, separate test boreholes were selected using a mixed judgemental / systematic, triangular sampling pattern, with allowance for structural obstacles (e.g. building walls, underground and overhanging services and other physical obstructions in use by existing operating businesses).

After soil sampling, two of twenty five boreholes (BH18 and BH17) were further drilled to depths of up to 3.25m BGL to enable the installation of groundwater monitoring bores (GW1 and GW2, respectively) and allow collection of future groundwater samples.

Laboratory analyses on representative samples were then conducted for the identified contaminants of concern, listed in Section 4.6.

6.2 ASSESSMENT CRITERIA

Soil – The soil contaminant analytical results were interpreted with respect to the DEC (2006 Second Edition) *NEHF-D Health Based Investigation Levels applicable for residential exposure settings with minimal opportunities for soil access, including high rise apartments and flats*. These thresholds are derived from the National Environmental Health Forum (NEHF) *Health-Based Soil Investigation Levels* (Imray and Langley, 1999), which have been nationally endorsed through the *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPC, 1999), where they are presented in Table 5-A of Schedule B(1).

Thresholds for TPHs and BTEX compounds are not provided under DEC (2006) and for this reason the EPA (1994) *Threshold Concentrations for Sensitive Land Use – Soils* were adopted as the default criteria for these parameters.

For the purposes of this assessment, these adopted soil criteria are referred to as the *Soil Investigation Levels* (SILs) and are presented alongside the corresponding analytical results.

Groundwater – Laboratory analytical results for the groundwater samples were interpreted with respect to the following guidelines results against the following published criteria, which were adopted in the indicated order of priority:

1. ANZECC (2000) *Trigger Values for the protection of 95% of freshwater species*, published under the Australian and New Zealand Guidelines for Fresh and Marine Water Quality;

2. Dutch (2000) *Groundwater intervention values for various organic and inorganic contaminants*, published by the Ministry of Housing, Spatial Planning & The Environment, Directorate General for Environmental Protection, The Netherlands, February 2000;

3. NEPC (1999) *Groundwater Investigation Levels for the protection of fresh water aquatic ecosystems*, published under Schedule B(1) of the National Environment Protection (Assessment of Site Contamination) Measure; and

4. ANZECC (1992) *Summary guidelines for the protection of fresh water aquatic ecosystems*, published under the Australian Water Quality Guidelines for Fresh and Marine Waters.

For the purposes of the investigation phase, the adopted criteria are referred to as the *Groundwater Investigation Criteria* (GILs) and are present alongside corresponding analytical results.

6.3 SOIL SAMPLING

Twenty five separate test boreholes were drilled on 21st August, 2009, with drilling depths ranging from 0.5m to 3.25m below ground level (BGL). Boreholes with limited access inside the buildings were drilled using a small excavator device (Dingo) utilising a hollow flight augering system while external holes were drilled using a truck mounted conventional drilling rig also utilising hollow stem augers. The sampling locations are illustrated in Figure 2.

Soil samples were obtained from each of the thirty one locations, at various depths ranging between 0.3m to 2.2m BGL. All examined soils were evaluated on a qualitative basis for odour and visual signs of contamination (e.g. charcoal, ash, oil staining, petrochemical filming, asbestos fragments, etc). It was noted that:

- Hydrocarbon odours were detected in shallow fill soils at the location of BH5, BH9, BH10 and BH12;

- Peaty organic odours were noted in deep residual/natural soils at BH11, BH10 and BH18; and

- No signs of ash, charcoal or asbestos fragments were detected in any of the examined soils.

Borehole logs were maintained for all test holes and included sample descriptions and other field observations. This information is presented in the form of graphic borehole logs in Appendix E.

6.4 Groundwater Sampling

6.4.1 Monitoring Bore Design, Installation and Development

Monitoring bores at the locations of BH18 and BH17 were further drilled and converted to groundwater monitoring wells identified as GW1 and GW2, respectively. The bores were constructed using a truck-mounted, mechanical auger rig with each bore drilled using 100mm diameter hollow stem augers.

EI were advised that a bore licence was applied for through the Department of Water & Energy however, a licence number had not yet been provided at the time of submission of this report. Sampling locations are illustrated in Figure 2.

Monitoring bore design comprised 50mm diameter, Class 18 UPVC casing, with slotted water intake intervals, and blank (un-slotted) casing as the riser tube. The chosen length of slotting in each case resulted in a monitoring well targeting to screen the upper part of the shallow groundwater system and enabled sampling of any floating (free phase) hydrocarbon product.

A UPVC end cap was used for the base of the slotted casing and graded sand was used as a filter within the bore-casing annulus, to an approximate level of 300mm above the top of the screen interval. Granular bentonite was applied above the filter as an annular seal with the annular filter covered with granular sand. A neat cement plinth was used to seal each bore with a cap and a protective steel bore cover for BH18/GW1 while a 290mm casing stick-up was used for BH17/GW2, therefore preventing surface waters from entering the bore; thus ensuring that the monitoring bores would screen groundwater seepage with no interference from surface water drainage. The construction details of each monitoring bore are summarised in Table 5.

Table 5. Summary of Monitoring Bore Construction Details

EI Bore ID	Stick Up (m)	Bore Depth (m BTOC)	Screen Interval (m BGL)	Lithology Screened
GW1	0.00	2.57	1.23-2.57	Sandy CLAY with gravels
GW2	0.29	3.25	1.35-3.15	EW SANDSTONE with clay banding

mBTOC - Metres below top of PVC casing ; mBGL - Metres below ground level

Bore development was conducted at each monitoring bore on 21th August, 2009. This was done to remove fine sediments that may have been smeared across the borehole walls during the drilling process and to improve hydraulic efficiency by causing the annular filter to stabilise around the slotted water intake intervals. The bore development process involved bore agitation using a HDPE bailer followed by the removal of groundwater and accumulated sediment from the bottom of the bore casing by pumping using a 12V submersible Bore Pump (*Proactive Environmental*, 12V submersible pump, model: *Super Twister*) until no further suspended sediment improvements were observed. Between one to two bore volumes were removed totalling between 10 and 15 litres per bore.

Bore Purging and Groundwater Sampling

Bore purging and groundwater sampling was performed at all two monitoring bores (GW1 and GW2) on the 16th September, 2009. Prior to the commencement of bore purging the standing water level was recorded at each bore location. The bore purging process involved the removal of stagnant water from each well using a *Proactive Environmental*, 12V submersible pump, model: *Super Twister*. Field measurements for Electrical Conductivity (EC) and the pH of the groundwater were also recorded during bore purging (*Ref.* Table 6). Consistent measurements obtained on three consecutive purge water samples were considered to be indicative of representative groundwater quality. Once consistent EC and pH measurements were obtained on discharging purge waters, representative groundwater samples were collected using a new, disposable, high density polyethylene (HDPE) bailer.

Table 6. Field-based groundwater test results

Bore ID	RL* (m)	SWL (mBTOC)	RWL (m)	Volume Purged (L)	Temp (°C)	pH	EC (µs/cm)	Odours
GW1	12.32	1.46	10.86	10	19.3	6.77	720	none
GW2	13.49	1.59	11.90	15	17.5	5.62	1680	none

All groundwater parameters (Temperature, pH and EC) were tested on site at the time of sampling (16th September, 2009).
RL* (Reduced Level) = ground elevation as surveyed at each bore site in metres (m) relative to Australian Height Datum (AHD).
TOC = Top of Casing – any stickup was reduced to the ground level elevation.
SWL = Standing Water Levels as measured from TOC on (16th September, 2009 - result in metres below TOC (mBTOC).
RWL = Reduced Water Levels – groundwater levels in metres relative to Australian Height Datum.

6.5 SUB-SURFACE CONDITIONS

On the basis of observations made during the borehole drilling works, site sub-surface conditions (i.e. excluding any concrete slabs) were generalised as follows:

- Filling materials of grey / brown to grey and yellow, red and orange gravel, silt, sand with rootlets, moderate plasticity, ranging in thickness between 0.35m and 1.6m BGL; overlying

- Natural light grey silty sand/sandy clay, fine to medium grain/medium plasticity; overlying

- Natural orange/red/grey highly weathered sandstone, medium grained.

The boreholes were left open for approximately two (2) hours after drilling and shallow groundwater/seepage were not encountered in any sampling locations during the field work program.

6.6 SAMPLE HANDLING PROCEDURES - SOIL

A stainless steel, hand trowel and mixing bowl were used to transfer soil samples from the auger flights into laboratory-prepared, 250g glass jars. Each jar was filled, capped with a Teflon-lined lid and stored immediately in an insulated chest containing ice.

Analyses were subsequently conducted on discrete (uncomposited) samples, with the exception of the analyses performed on samples C1, C2, C3, C4, C5, C6, C7 and C8. These samples were laboratory prepared composites, each comprising an equal mix of discrete samples, as follows:

C1: BH16-1, BH17-1 and BH18-1;
C2: BH1-1; BH12-1 and BH13-1;
C3: BH2-1; BH6-1 and BH9-1;
C4: BH14-1, BH19-1 and BH21-1;
C5: BH3-1; BH7-1 and BH10-1;
C6: BH15-1; BH20-1 and BH22-1;
C7: BH23-1, BH24-1 and BH25-1; and
C8: BH4-1; BH8-1 and BH11-1;

Composite samples were analysed for OCPs, OPPs and PCBs.

6.7 SAMPLE HANDLING PROCEDURES- GROUNDWATER

Groundwater samples were collected by discharging sample from the used groundwater pump directly into laboratory-prepared water sampling containers, as follows:

- one, 1 litre amber glass, acid-washed and solvent-rinsed bottle;
- two, 40ml glass vials, each pre-preserved with dilute hydrochloric acid and sealed with a Teflon-coated septum; and
- one, 250mL HDPE bottle, laboratory pre-preserved with dilute nitric acid (1 mL).

The glass containers intended for organic chemical analyses were filled with unfiltered groundwater sample to the brim, so as to exclude air, then capped and stored immediately in an insulated chest containing ice.

The HDPE container intended for inorganic analyses was filled with filtered groundwater sample to enable testing for dissolved heavy metal concentrations. Field filtration of groundwater samples was achieved by first discharging unfiltered groundwater from the HDPE bailer, directly into a HDPE beaker, followed by the collection and passing of unfiltered groundwater through 0.45µm pore size, Millipore brand filter discs, using a disposable, unused HDPE syringe. Upon collection of sufficient filtered sample, the container was capped and stored immediately in an insulated chest containing ice.

All soil and groundwater samples were transported under refrigerated conditions to Envirolab Services Pty Ltd (Envirolab) and LabMark Pty Ltd (LabMark), using strict Chain-of-Custody procedures. Sample Receipt Advice forms were provided by the laboratory to indicate the condition of the samples upon receipt and copies of these are presented, along with copies of the completed Chain-of-Custody certificates, in Appendix F.

7.0 QUALITY ASSURANCE & QUALITY CONTROL

7.1 FIELD QA/QC

7.1.1 Sampling Personnel

Field investigations and soil sampling were conducted by appropriately qualified and trained professional staff with over ten years of continuous relevant experience in the assessment and management of contaminated sites. The field team comprised the following personnel:

- Eric Gerges – Project Manager (Decision Maker)
- Dr Vagner Jorden – Engineer (Engineer and Field Work Supervisor)

Quality Assurance was maintained for this project through:

- adherence to a structured sampling and analytical plan, which was based on site operational history and other pertinent information obtained during the site contamination appraisal; and
- the use of methodologies and procedures, including the testing of quality control (QC) samples, consistent with relevant published environmental guidelines.

This section of the report focuses on the presentation of results of QC samples and discussions of deviations from the Data Acceptance Criteria (DAC) (Appendix D, Table QC5).

7.1.2 Sample Handling & Decontamination Procedures

Soil Sampling

All validation samples were collected as described in Section 6.6 a stainless steel, hand trowel, which was decontaminated between each sampling location.

Soil samples were transferred into laboratory-prepared, acid-washed and solvent-rinsed, 250g glass jars using the decontaminated stainless steel hand trowel. Each jar was filled, capped with a Teflon-lined lid and stored immediately in an insulated chest containing ice.

All soil samples were transported to Envirolab under refrigerated conditions, using strict Chain-of-Custody procedures. Inter-laboratory duplicate ILD samples were forwarded to LabMark for inter-laboratory QA/QC analysis. All laboratory analyses were conducted on discrete (un-composited) samples.

Decontamination of soil sampling equipment involved the initial removal of solids by scrubbing with a nylon brush using phosphate-free detergent and potable water, followed by a final rinse with potable water.

Sample Transport

After sampling, the collected soil and groundwater samples were transported in refrigerated sample chests to Envirolab and Labmark using strict Chain-of-Custody procedures. A Sample Receipt Advice was provided by each laboratory to indicate the condition of the samples upon receipt and copies of these are presented, along with copies of the completed Chain-of-Custody certificates, in Appendix F.

7.1.3 Rinsate Samples – soil

A rinsate sample (R1) was collected for field quality control (QC) purposes by collecting equipment rinsate after a randomly selected round of soil sampling equipment decontamination.

The soil sampling equipment rinsate sample was analysed for Heavy Metals, TPHs and BTEX and the concentrations of these parameters in the rinsate were all below the corresponding laboratory quantitation limits. It was therefore concluded that decontamination procedures performed during the field works had been effective.

7.1.4 Blind Field Duplicate (BFD) Samples – Soil

Field QC included the sample B1 and B2, which was collected as field, split duplicates of the sample BH21-1 and BH22-1. This split duplicate was collected to check the level of

sample representativeness that was achieved under EI's standard field procedures. The duplicate sample was presented 'blind' to Envirolab (the primary laboratory) to avoid any potential analytical bias, hence they were referred to as the *Blind Field Duplicates* (BFD). The preparation of the BFD sample involved the collection of a bulk quantity of soil from the same sampling point, without mixing, before dividing the material into identical vessels. The BFD samples were analysed for Heavy Metals, TPHs C_{10}-C_{36}, and PAHs and the results of which are discussed in Section 7.1.10.

7.1.5 Inter-laboratory Duplicate (ILD) Sample –Soil

Inter-laboratory duplicate (ILD) samples were also part of the field QC program to assess the level of sample representativeness achieved, as well as the comparability of laboratory analytical results. The ILD samples I1 and I2 were collected as field, split duplicates of the sample BH11-1. The preparation of IL was identical to the BFD samples as described in Section 7.1.4. The ILD sample was also presented 'blind' to Envirolab to avoid any potential bias, who then forwarded the samples to LabMark (the secondary laboratory) to be analysed for Heavy Metals, TPHs C_{10}-C_{36}, and PAHs.

7.1.6 Sample Handling & Decontamination Procedures – Groundwater

The groundwater samples collected from monitoring bores GW1, GW2 and GW3 were identified as MW1, MW2 and MW3, respectively. All groundwater samples were collected by discharging sample from a disposable high-density polyethylene (HDPE) bailer directly into laboratory-prepared water sampling containers, as follows:

- one, 1 litre amber glass, acid-washed and solvent-rinsed bottle;
- two, 40ml glass vials, each pre-preserved with dilute hydrochloric acid and sealed with a Teflon-coated septum; and
- one, 250mL, HDPE bottle, laboratory pre-preserved with dilute nitric acid (1 mL).

The glass containers intended for organic chemical analyses were filled with unfiltered groundwater sample to the brim, so as to exclude air, then capped and stored immediately in an insulated chest containing ice.

The glass containers intended for organic chemical analyses were filled with unfiltered groundwater sample to the brim, so as to exclude air, then capped and stored immediately in an insulated chest containing ice. The pre-acidified HDPE container, intended for inorganic analyses, was filled with filtered groundwater sample to enable analysis for dissolved heavy metal concentrations. Field filtration of groundwater samples was achieved by first discharging unfiltered groundwater from the bailer, directly into a field beaker, followed by the collection and passing of unfiltered groundwater through 0.45µm pore size, Millipore brand filter discs, using a disposable, unused syringe. All items in contact with the sample (i.e. bailer, beaker, filter housing and syringe) were composed of HDPE. Upon collection of sufficient filtered sample, the sample container was capped and stored immediately in an insulated chest containing ice.

To minimise potential loss of volatiles, the glass VOC vials were filled using a low-velocity sampling technique involving:

a. lowering of the bailer below the water column in a slow and controlled manner so as not to create turbulence;

b. raising the bailer out of the monitoring bore in an equally slow and controlled manner;

c. inserting a low-velocity, bottom emptying device (BED) at the lower outlet of the bailer;

d. positioning the bailer, with BED fitted, over the open VOC vial;

e. opening the low-velocity flow valve (incorporated into the BED) to fill the 40ml VOC vials.

Upon completion of the fieldwork, samples were transported under refrigerated conditions to the contract laboratories Envirolab Services Pty Ltd (Envirolab) using strict Chain-of-Custody procedures. A Sample Receipt Advice (SRA) was provided by the laboratory to indicate the condition of the samples upon receipt. Copies of all SRAs are presented along with copies of the completed Chain-of-Custody certificates, in Appendix F.

All drilling equipment was decontaminated using phosphate-free detergent prior to use and between each bore location. Steel tapes and water quality probes were washed with detergent then rinsed in distilled and/or deionised water, or wiped clean with unused paper towels after each use.

The pump used to develop and purge the wells was decontaminated between sampling locations by washing in a solution of phosphate-free detergent followed by rinsing with deionised water. Decontamination of the sampling bailers was not deemed necessary as a new, (unused) HDPE bailer was used for the collection of each groundwater sample.

7.1.7 Rinsate Samples – Groundwater

A rinsate sample was not collected for field quality control purposes as a new, unused HDPE bailer was used for the collection of each groundwater sample.

7.1.8 Blind Field Duplicate (BFD) Samples – Groundwater

The groundwater sample MW2 was split in the field to form the sub-sample R1. These samples served as blind field duplicates (BFD) and were assigned for analysis by Envirolab for field QC purposes. The preparation of the duplicate samples involved the decanting of the groundwater collected from the respective monitoring bores, into two separate groups of sampling bottles and vials that were appropriately labelled and preserved. Each consecutive bailer volume was split equally between the two groups of sampling bottles, such that the sample contained in each individual bottle contained a similar proportion of each bailed water volume. Samples MW2 and R1 were analysed by Envirolab for Heavy Metals, TPHs, BTEX and PAHs.

7.1.9 Inter-laboratory Duplicate (ILD) Sample – Groundwater

Inter-laboratory duplicate (ILD) samples were not collected for this assessment; however given that no significant concentrations of any tested parameter were identified, it was considered that the QA/QC testing performed was adequate for the purposes of the assessment.

7.1.10 Field QA/QC Data Evaluation

Completeness

All soil samples were obtained by an experienced sampler, in accordance with EI's standard field procedures. Soil samples were analysed for the identified COCs using appropriate methods and PQLs, as detailed in the SAQP. Sample documentation and sample holding times were assessed and found to be appropriate for the level of assessment undertaken.

The sampling team therefore believe that all laboratory analytical results produced were considered to be valid and usable for data interpretation for the purposes of the assessment.

Comparability

Data comparability was determined to be adequate on the basis that:

- the same SOPs were used at each bore location;
- the sampler was experienced; and
- consistent sample collection, preservation and handling methods were used.

Representativeness

The calculated soil RPDs for the BFD samples are shown in Table 7 & 8 and were within the Data Acceptance Criteria (Ref. Appendix D, Table QC5), indicating that the samples collected were representative of the soils present at the respective sampling locations.

Precision

Soil and groundwater sampling was undertaken in accordance with EI's SOPs for soil and groundwater sampling, which were consistent with Australian Standards / New Zealand Standards (*AS/NZS ISO 5667: 1998*). Laboratory duplicates, as well as field duplicate samples, were analysed with the limitations described above. Laboratory-prepared volatile trip spikes were not analysed; however, as no volatile odours were detected it was considered that this did not influence the findings of the assessment.

Table 7. Summary of laboratory results for BFD samples D1 and D2, field QC soil duplicates of BH21-1 and BH22-1 with calculated relative percentage differences (% RPD).

Parameter (mg/kg)	BH21-1	D1	% RPD	BH22-1	D2	% RPD
Heavy Metals						
Arsenic	7	<4	NA	<4	<4	NA
Cadmium	<0.5	<0.5	NA	<0.5	<0.5	NA
Chromium	13	16	18.75	5	8	37.5
Copper	27	27	0	8	12	33.33
Lead	30	13	23.33	7	11	36.36
Mercury	<0.1	<0.1	NA	<0.1	<0.1	NA
Nickel	16	39	58.97	6	7	14.29
Zinc	48	25	47.92	14	22	36.36
TPHs						
$C_{10} - C_{14}$	<50	<50	NA	<50	<50	NA
$C_{15} - C_{28}$	<100	<100	NA	<100	<100	NA
$C_{29} - C_{36}$	<100	<100	NA	<100	<100	NA
PAHs						
Benzo(a)Pyrene	0.06	<0.05	NA	<0.05	<0.05	NA
Total PAHs	<1.56	<1.55	NA	<1.55	<1.55	NA

All results are in units of mg/kg ; NA = RPD calculation was not possible/valid to perform due to the non-detection of parameters; Where one of the duplicates showed detectable concentrations, the PQL of the other duplicate is applied for the RPD calculation.

Table 8. Summary of laboratory results for groundwater sample MW1, the field duplicates of R1, with calculated relative percentage differences (% RPD).

Parameter (µg/L)	MW1	R1	% RPD
Heavy Metals			
Arsenic -Dissolved	<1.0	<1.0	ND
Cadmium –Dissolved	<0.10	<0.10	ND
Chromium –Dissolved	<1.0	<1.0	ND
Copper –Dissolved	<1.0	1.0	NA
Lead –Dissolved	<1.0	<1.0	ND
Mercury –Dissolved	<0.50	<0.05	ND
Nickel –Dissolved	<1.0	<1.0	ND
TPHs			
C_6-C_9	<10	<10	ND
C_{10}-C_{14}	<50	<50	ND
C_{15}-C_{28}	<100	<100	ND
C_{29}-C_{36}	<100	<100	ND
BTEX			
Benzene	<1.0	<1.0	ND
Toluene	<1.0	<1.0	ND
Ethyl Benzene	<1.0	<1.0	ND
Total Xylenes	<3.0	<3.0	ND
PAHs			
Benzo(a)Pyrene	<1	<1	ND
Total PAHs	ND	ND	ND

All values are in units of µg/L
NA = RPD calculation was not possible/valid to perform
ND = below equipment detection limits
* = Due to the detection levels between two laboratories, 0% RPD is achieved where results fall below the detection level of the primary laboratory.

Accuracy (Bias)

Field instruments (pH/EC/TEMP meter and water level contact meter) were subject to routine calibration and maintenance in accordance with manufacturer specifications, and were therefore considered to be as accurate as possible for field investigation purposes.

Overall Documentation Completeness:

All soil samples were classified in the field with respect to soil/fill characteristics and any observable signs of contamination based on visual and odour assessment. A Field Contamination Ranking (FCR) System was applied to each lithological soil sample, and FCR values were recorded on test bore logs.

The FCR system was assigned to samples on the following basis:

0 - for samples that did not display any visual signs of contamination or detectable odours;
1 - for samples that displayed slight visual signs of contamination and/or detectable odours;
2 - for samples that displayed obvious signs of contamination and/or detectable odours; and
3 - for samples that display significant signs of contamination and/or detectable odours.

All samples, including field QC samples, were transported to the primary and secondary laboratories under strict Chain-of-Custody conditions and appropriate copies of relevant documentation were included in the respective reports.

The overall completeness of documentation produced under the field program of the subject assessment was considered to be adequate for the purposes of drawing valid conclusions regarding the environmental condition of the site.

7.2 LABORATORY QA/QC

To undertake all the analytical tests, EI commissioned Envirolab as the primary laboratory and Labmark as the secondary laboratory. Envirolab and Labmark, both established analytical laboratories which operate in accordance with the guidelines set out in ISO/IEC Guide 25 "General requirements for the competence of calibration and testing laboratories", conducted all respective analyses using National Association Testing Authorities (NATA)-registered procedures

In relation to contingencies, should the pre-determined DQOs not be achieved, in accordance with each laboratory's QC policy, respective tests are accordingly repeated. Should the results again fall outside the DQOs, then sample heterogeneity may be assumed and written comment will be provided to this effect on the final laboratory certificate.

7.2.1 Sample Holding Times

All sample holding times were within standard environmental protocols as tabulated in Appendix D, Tables QC1 and QC2.

7.2.2 Test Methods and Practical Quantitation Limits (PQLs)

Practical Quantitation Limits for the tested parameters during the assessments of soils and groundwater are presented in Appendix D, Tables QC3 and QC4.

7.2.3 Method Blanks

Concentrations of all parameters in method blanks during the assessment were below the laboratory PQLs and were therefore within the DAC.

7.2.4 Laboratory Duplicate Samples

Concentrations of all parameters in laboratory duplicate samples during the analysis batches were within the RPD acceptance levels and were therefore within the DAC.

7.2.5 Laboratory Control Samples

The Laboratory Control Samples (LCS) for the analysis batches were within acceptable ranges and conformed to the DAC.

7.2.6 Matrix Spikes

The matrix spikes of the analysis batches were within acceptable ranges and conformed to the DAC.

7.2.7 Laboratory QA/QC Data Evaluation

Completeness

Checks were conducted with respect to the laboratory data reported by the contract laboratories and it was found that documentation was correct, all critical samples and analytes were analysed in accordance with the SAQP, appropriate methods and PQLs had been used, documentation was complete and holding times had been complied with.

Comparability

Data comparability was determined to be adequate on the basis that:

- the same SOPs were used at each bore location;
- the sampler was experienced;
- consistent sample collection, preservation and handling methods were used;
- consistent sample analytical methods were used;
- the same units were used; and
- sample PQLs were predominantly the same.

Sample PQLs varied slightly depending on the need for sample dilution at the laboratory as required. In view of the above points, EI concluded that data comparability requirements were adequately achieved for this assessment.

Representativeness

The RPDs for the BFD samples were within the Data Acceptance Criteria indicating that the samples collected were representative of the soils present at the respective sampling locations.

Precision

The RPDs of the intra-laboratory duplicates were within the assessment criteria, which indicated that the sampling and laboratory precision was within acceptable limits.

Accuracy (Bias)

Laboratory accuracy has been assessed by analysis of method blanks and percent recovery of laboratory control samples, matrix spikes and surrogates. With the exceptions noted above, these results indicate the accuracy of the laboratory was within acceptable limits.

7.3 QA/QC DOCUMENTATION

Chain-of-Custody certificates were appropriately signed on receipt of samples and laboratory batch numbers were assigned for internal tracking purposes. All such certificates were followed by a Sample Receipt Advice form issued by the respective environmental laboratory to EI, which confirmed the receipt of samples and described sample condition and preservation at the time of receipt by the laboratory.

The final aspect of QA/QC documentation applied under the soil investigation comprised the intra-laboratory QA/QC test reports, which were attached to all laboratory analytical reports for the respective components of the project.

7.4 LABORATORY ANALYTICAL RESULTS

7.4.1 Soil Sampling Results

Laboratory analytical results for the representative discrete and composite soil samples are summarised in Tables 9 to 12 and presented in detail in copies of the laboratory analytical reports (*Ref.* Appendix G). Tables 9 to 12 also include the relevant soil criteria, adjusted for soil compositing where appropriate.

Table 9. Summary of Laboratory Analysis for Heavy Metals in Soils

Sample ID	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium* (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
BH1-1	<4	<0.5	21	21	150	<0.1	16	64
BH2-1	<4	<0.5	3	26	33	<0.1	3	79
BH3-1	<4	<0.5	3	3	6	<0.1	<1	7
BH4-1	<4	<0.5	15	2	14	<0.1	2	13
BH5-1	<4	<0.5	13	3	17	<0.1	3	10
BH5-2					14			
BH5-3					16			
BH6-1	9	0.6	33	1	17	<0.1	3	10
BH7-1	7	<0.5	23	12	25	<0.1	4	43
BH8-1	7	0.7	12	75	420	0.4	13	410
BH8-2					10			
BH9-1	12	0.5	13	55	67	0.1	34	110
BH9-2					13			
BH10-1	8	0.9	22	21	190	0.3	5	270
BH11-1	<4	1.3	7	59	41	<0.1	7	170
BH12-1	5	<0.5	45	26	89	<0.1	35	93
BH13-1	<4	<0.5	10	9	34	<0.1	7	37
BH14-1	<4	<0.5	8	27	6	<0.1	51	28
BH15-1	<4	<0.5	10	30	120	<0.1	4	120
BH16-1	7	0.7	11	47	200	<0.1	17	510
BH17-1	10	<0.5	20	10	59	3.6	3	23
BH18-1	8	0.5	31	22	95	1.3	16	85
BH19-1	<4	0.5	29	57	6	<0.1	86	42
BH20-1	<4	<0.5	10	21	7	<0.1	29	22
BH21-1	7	<0.5	13	27	30	<0.1	16	48
BH22-1	<4	<0.5	5	8	7	<0.1	6	14
BH23-1	4	<0.5	13	43	41	<0.1	6	52
BH23-2					11			
BH24-1	<4	<0.5	4	5	23	<0.1	1	16
BH25-1	5	0.7	27	160	100	<0.1	16	140
SILs	**400**	**80**	**400#**	**4,000**	**1,200**	**60**	**2,400**	**28,000**

SILs DEC (2006 Second Edition) *NEHF-D Health Based Investigation Levels applicable for residential exposure settings with minimal opportunities for soil access, including high rise apartments and flats.*

Note (#) DECC NSW thresholds are for Chromium VI. It is assumed all detected Chromium is Chromium (III), as Chromium (VI) would be too unstable to exist under normal circumstances.

Table 10. Summary of Laboratory Analysis for TPH and BTEX in Soils

Sample ID	Total Recoverable Hydrocarbons (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)
	C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}				
BH1-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH2-1	<25	<50	160	<100	<0.5	<0.5	<1.0	<3.0
BH3-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH4-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH5-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH5-2	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH5-3	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH6-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH7-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH8-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH8-2	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH9-1	<25	**<50**	**810**	**870**	<0.5	<0.5	<1.0	<3.0
BH9-2	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH10-1	<25	<50	110	100	<0.5	<0.5	<1.0	<3.0
BH11-1	<25	<50	<100	100	<0.5	<0.5	<1.0	<3.0
BH12-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH13-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH14-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH15-1	<25	<50	210	100	<0.5	<0.5	<1.0	<3.0
BH16-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH17-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH18-1	<25	<50	270	140	<0.5	<0.5	<1.0	<3.0
BH19-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH20-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH21-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH22-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH23-1	<25	<50	500	410	<0.5	<0.5	<1.0	<3.0
BH23-2	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
HA24-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
BH25-1	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0
SILs	**65**	**Total 1,000**			**1**	**1.4**	**3.1**	**14**

SILs NSW EPA (1994) *Threshold concentrations for sensitive land use soils*, Contaminated Sites: Guidelines for Assessing Service Station Sites.

Bold & Highlighted Cells indicate values above the adopted SILs

Table 11. Summary of Laboratory Analysis for PAHs in Soils

Sample Identification	PAHs (mg/kg)	
	Benzo[a]pyrene	**Total PAHs**
BH1-1	1	10.4
BH2-1	**5.8**	78.7
BH3-1	<0.05	<1.55
BH4-1	<0.05	<1.55
BH5-1	0.05	<1.55
BH5-3	<0.05	<1.55
BH6-1	<0.05	<1.55
BH7-1	0.2	2.7
BH8-1	2.3	18.5
BH9-1	**18**	**172.6**
BH10-1	2.5	22.5
BH11-1	3	20.8
BH12-1	0.3	2.6
BH13-1	0.9	7.8
BH14-1	<0.05	<1.55
BH15-1	**7.2**	66.3
BH16-1	0.3	2.6
BH17-1	0.6	6.1
BH18-1	**8.1**	**85**
BH19-1	<0.05	<1.55
BH20-1	<0.05	<1.55
BH21-1	0.06	1.56
BH22-1	<0.05	<1.55
BH23-1	**21**	**173.2**
HA24-1	<0.05	<1.55
BH25-1	0.08	1.58
SILs	**4**	**80**

SILs DEC (2006 Second Edition) *NEHF-D Health Based Investigation Levels applicable for residential exposure settings with minimal opportunities for soil access, including high rise apartments and flats.*

Table 12. Summary of Laboratory Analysis for OCPs, PCBs and OPPs in Soils

Sample Identification	OCPs (mg/kg)	PCBs (mg/kg)	OPPs (mg/kg)
BH5-1	ND	ND	ND
SILs	**40/200/800/40 ♣**	**40 (total)**	**NR**
C1	ND	ND	ND
C2	ND	ND	ND
C3	ND	ND	ND
C4	ND	ND	ND
C5	ND	ND	ND
C6	ND	ND	ND
C7	ND	ND	ND
C8	ND	ND	ND
Adjusted SILs	**13.3/66.7/266.7/13.3 ♣**	**13.3 (total)**	**NR**

SILs DEC (2006 Second Edition) *NEHF-D Health Based Investigation Levels applicable for residential exposure settings with minimal opportunities for soil access, including high rise apartments and flats.*
SILs are adjusted for potential dilution due to sample compositing
ND = Concentrations were found to be below instrument detection limits
NR = No Recommended criteria are currently available for the indicated parameter(s)
♣ = Aldrin + Dieldrin/Chlordane/DDT+DDD+DDE/Heptachlor

Interpretation of Soil Quality for Commercial/Residential Land Use

Heavy Metals

Non-detectable or low concentrations of heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) were found in all samples. However, these results were found to be within the adopted SILs.

TPHs and BTEX

With the exception of the location of BH9 with slightly elevated levels of TPH (C_{10}-C_{36}) measuring 1,730mg/kg, which was found to be above the adopted threshold of 1,000 mg/kg and low concentrations in samples BH2-1 (160mg/kg), BH10-1 (210mg/kg), BH15-1 (310mg/kg), BH18-1 (410mg/kg) and BH23-1 (910mg/kg) no detectable concentration of any of the screened TPH fractions were identified in the remainder of the tested samples

with all laboratory quantitation limits being below the adopted EPA (1994) *Threshold Concentrations for Sensitive Land Use - Soils*.

No detectable concentration of any of the BTEX compounds was identified in any of the tested samples, with all laboratory quantitation limits being below the adopted EPA (1994) *Threshold Concentrations*.

PAHs

Twenty five samples were selected for analysis of PAHs (*Ref*. Table 9) with the reported concentrations below the adopted criteria except for the following:

Five samples had concentrations of benzo(a)pyrene ranging from 5.8mg/kg to 21mg/kg in sampling locations BH2-1 and BH23-1, respectively , which are in excess of the adopted SIL of 4 mg/kg. The concentrations of total PAHs ranged between 85mg/kg and 173.2mg/kg in sampling locations BH18-1 and BH23-1, respectively. Three samples exceeded the adopted SIL for Total PAH criteria of 80mg/kg.

All remaining tested samples revealed low or non-detectable PAH concentrations, being well within the adopted criteria.

Other Organics

Discrete sample BH5-1 and composite samples C1, C2, C3, C4, C5, C6, C7 and C8 were selected for laboratory analysis of OCPs, PCBs and OPPs. No detectable concentration of any of the screened OCPs, PCBs and OPPs compounds were identified in these samples, with all laboratory quantitation limits being within the adopted criteria.

Discrete sample BH5-3 was selected for laboratory analysis of Phenols with the laboratory results below the laboratory quantitation limits being within the adopted criteria.

7.4.2 Groundwater Samples

Laboratory analytical results for the representative groundwater samples taken on the 16th September, 2009 are summarized in tables 13, 14 and 15 presented in detail in copies of the laboratory analytical reports (*Ref.* Appendix G). These tables also include the adopted Groundwater Investigation Levels (GILs) for the assessment.

Table 13. Laboratory analytical results for Heavy Metals

ANALYTE	Units	MW1	MW2	GILs
Heavy Metals				
Arsenic	µg/L	ND	ND	24
Cadmium	µg/L	ND	ND	0.2
Chromium (Total)	µg/L	ND	ND	* 10 [1]
Copper	µg/L	ND	ND	1.0
Lead	µg/L	ND	**11**	1.4
Mercury	µg/L	ND	ND	3.4
Nickel	µg/L	ND	1.0	0.6
Zinc	µg/L	ND	13	11

GILs NEPC (1999) *Groundwater Investigation Levels (GILs)* for the protection of freshwater aquatic ecosystems, unless otherwise indicated.
ND = Concentrations were found to be below instrument detection limits
Bold & Highlighted Cells indicate values above the adopted GILs

Table 14. Laboratory analytical results for TPHs and BTEX

ANALYTE	Units	MW1	MW2	GILs
TPHs				
C_6 - C_9	µg/L	ND	ND	NR
C_{10} - C_{14}	µg/L	ND	ND	Total 600 [3]
C_{15} - C_{28}	µg/L	ND	ND	
C_{29} - C_{36}	µg/L	ND	ND	
BTEX				
Benzene	µg/L	ND	ND	950 [1]
Toluene	µg/L	ND	ND	300 [2]
Ethyl benzene	µg/L	ND	ND	140 [2]
Total Xylenes	µg/L	ND	ND	550 [1]

GILs NEPC (1999) *Groundwater Investigation Levels (GILs)* for the protection of freshwater aquatic ecosystems, unless otherwise indicated.
[1] ANZECC/ARMCANZ (2000) Trigger values for the protection of 95% of freshwater species.
[2] NSW EPA 1994 Threshold concentrations for the protection of freshwater aquatic ecosystems.
[3] Dutch 1994, New C-Values, Groundwater Intervention Criteria.
ND = Concentrations were found to be below instrument detection limits

Table 15. Laboratory analytical results for PAHs.

ANALYTE	Units	MW1	MW2	GILs
PAHs				
Naphthalene	mg/L	ND	ND	3
Total PAHs	mg/L	ND	ND	16 [1]
Benzo(a)pyrene	mg/L	ND	ND	0.01 *

GILs NEPC (1999) *Groundwater Investigation Levels (GILs)* for the protection of freshwater aquatic ecosystems, unless otherwise indicated.
[1] ANZECC/ARMCANZ (2000) Trigger values for the protection of 95% of freshwater species.
***** *NSW EPA 1994* Drinking Water guideline for *Benzo(a)pyrene*, as published in NEPC (1999).
ND = Concentrations were found to be below instrument detection limits

Field Parameters – pH and Electrical Conductivity (EC)

With reference to Table 5, field pH testing of groundwater samples immediately prior to sample collection showed most samples to have a relatively neutral pH ranging between 6.77 (at MW1) and 5.62 (at MW2).

Low Electric Conductivity measurements within the monitoring well indicate lower salinity conditions within the saturated zone across the site, therefore it is expected that the saline or any brackish intrusion on site is unlikely.

Heavy Metals

Comparison of the tested groundwater samples with the adopted Groundwater Investigation Levels (GILs) (*Ref*. Table 12) revealed that the heavy metal lead (11µg/L) and zinc (13µg/L) in MW2 were found to exceed the adopted ANZECC/ARMCANZ (2000) 95% freshwater Trigger values of 1.4µg/L and 11µg/L, respectively. All other groundwater samples showed heavy metal concentrations within the GILs.

Also, what appear from the heavy metals results for the monitoring bores, to be a incidence of groundwater containing elevated concentrations of lead and zinc could be attributable to the fact that the levels of this metal is commonly used as a pigment in paints and as a coating on galvanized metal surfaces, as found in structures and pipes as well as metal materials, including structures, wiring and pipes. It was considered that the identified groundwater concentrations were potentially the result of long-term weathering of metal-based paints and structural metal coatings, or water leakage from services in the

local area, and not necessarily attributable to the onsite use of these materials during the operational history of the site. Furthermore, although that background soil levels for lead and zinc across the site were found to be within the adopted criteria it is therefore considered unlikely that the levels of these heavy metals are derived (wholly) from the subject site.

Even though the detected levels of these metals can be also considered to be well within background fluctuations in naturally occurring levels in the Sydney metropolitan groundwater system, and the low hydraulic conductivities of site subsurface soils, which is expect to result in low advective groundwater flow velocities, given the size of the site associated with history uses, further testing including installation of additional monitoring wells would be prudent allowing sufficient data to be collected to substantiated previous assumptions.

TPH & BTEX

Although the adopted Groundwater Investigation Levels (GILs) are not provided under the ANZECC/ARMCANZ (2000) 95% Marine Trigger the Dutch (2000) Groundwater Intervention Values for TPHs C_{10}-C_{36} of 0.6mg/L were adopted.

Laboratory results for all groundwater samples tested showed non-detectable levels of TPH & BTEX for all selected parameters and well within the adopted criteria.

PAHs

Laboratory results for the tested groundwater samples showed non-detectable levels of PAHs with all PQLs being within the GILs.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The property located at 78-90 Old Canterbury Road, Lewisham, NSW, was the subject of an Environmental Site Assessment (ESA) in order to initially determine the potential for sub-surface contamination resulting from past site activities and present a baseline of contamination conditions for assessment of the site's suitability for the proposed concept plan.

The investigation was required to assess the potential environmental issues at the site prior to the redevelopment of the property by way changing the current use of the site from industrial to residential. This assessment is required as part of a concept plan application for the department of planning.

Based on the findings of this Environmental Site Assessment, it was concluded that:

- The site was free of statutory notices issued by the NSW DECC;

- Topsoil/fill materials consisting of grey / brown to grey and yellow, red and orange gravel, silt, sand with rootlets, moderate plasticity, ranging in thickness between 0.35m and 1.6m BGL; overlying Natural light grey silty sand/sandy clay, fine to medium grain/medium plasticity; overlying Natural orange/red/grey highly weathered sandstone, medium grained.

- Twenty five initial, separate test boreholes were selected using a mixed judgemental / systematic, triangular sampling pattern, with allowance for structural obstacles (e.g. building walls, underground and overhanging services and other physical obstructions) as well as targeting the areas of environmental concern;

- Non-detectable or low concentrations of heavy metals were identified within all tested soil samples and were found to fall within the adopted DEC (2006) thresholds;

- With the exception of the location of BH9 with slightly elevated levels of TPH (C_{10}-C_{36}) measuring 1,730mg/kg, which was found to be above the adopted threshold of 1,000 mg/kg, low or no detectable concentration of any of the screened TPH fractions were identified in the remainder of the tested samples with all laboratory quantitation limits being below the adopted EPA (1994) *Threshold Concentrations for Sensitive Land Use – Soils.* Non-detectable concentrations of the any screened TPH fractions or BTEX were identified in any of the tested samples, being within the adopted criteria;

- Twenty five samples were selected for analysis of PAHs (*Ref*. Table 10) with the reported concentrations below the adopted criteria except for the following:

    - Five samples had concentrations of benzo(a)pyrene ranging from 5.8mg/kg to 21mg/kg in sampling locations BH2-1 and BH23-1, respectively , which are in excess of the adopted SIL of 4 mg/kg. The concentrations of total PAHs ranged between 85mg/kg and 173.2mg/kg in sampling locations BH18-1 and BH23-1, respectively. Three samples exceeded the adopted SIL for Total PAH criteria of 80mg/kg; and
    - All remaining tested samples revealed low or non-detectable PAH concentrations, being well within the adopted criteria.

- All soil samples tested for OCPs, OPPs, PCBs and phenols showed no detectable concentrations for the relevant analytical parameters, being within the adopted DEC (2006) thresholds*;*

- Free groundwater was encountered in all monitoring wells at depths ranging between 1.46m and 1.59m BGL at GW1 and GW2, respectively;

- Laboratory analytical results for groundwater samples revealed:

- Heavy metal lead was found to exceeded the adopted ANZECC/ARMCANZ (2000) *Trigger values for the protection of 95% of freshwater species* (5 µg/L) in sample MW2 (11µg/L);

- all other heavy metals results were either below detection limits or within the adopted GILs;

- all TPH, BTEX and PAH results were below instrument detection limits and within the adopted GILs;

Given the observed some deeper clayey lithologies, which have characteristically low hydraulic conductivities, it is expected that resultant low advective groundwater flow velocities would allow adequate groundwater attenuation to occur along the flow path. It is considered that although the groundwater lead concentration identified within the current monitoring well (MW2), may not appear to be significant at present, it is possible that the detected concentrations are indicative of the maximum degree of contamination present and are the result of localised incidents that have produced minor point sources of contamination. Therefore, it would be prudent to conduct additional investigations to better characterise the degree of the identified contaminants.

Also, what appear from the heavy metal result for the monitoring bore, to be an incidence of groundwater containing elevated concentrations of lead could be attributable to the fact that the level of this metal be commonly used as a pigment in paints and as a coating on galvanized metal surfaces, as found in structures and pipes as well as metal materials, including structures, wiring and pipes. It was considered that the identified groundwater concentration was potentially the result of long-term weathering of metal-based paints and structural metal coatings, or water leakage from services in the local area, and not necessarily attributable to the onsite use of these materials during the operational history of the site. Furthermore, even though that background soil level for lead across the site was found to be slightly exceeding the adopted criteria it is therefore considered unlikely that the levels of this heavy metal is derived (wholly) from the subject site.

Although the detected levels of this metals can be also considered to be well within background fluctuations in naturally occurring lead levels in the Sydney metropolitan

groundwater system, and the low hydraulic conductivities of site subsurface soils, which is expect to result in low advective groundwater flow velocities, given the size of the site associated with history uses further testing including installation of additional monitoring wells would be prudent allowing sufficient data to be collected to substantiated previous assumptions.

In view of the above findings, and in accordance with DEC Guidelines, it is considered that the site is suitable for the proposed rezoning from industrial to residential provided the following recommendations are carried out once the site is cleared:

1. The installation of three additional groundwater monitoring bores; the first one downgradient of the existing underground storage tank (UST) area, the second one inside the existing warehouse downgradient of the current printing facility area and the third one towards the loading dock (north-western section of the site);

2. A second round of groundwater monitoring & sampling of existing and new groundwater bores with specific laboratory analyses of groundwater for heavy metals, TPH/BTEX and PAHs;

3. An additional investigation including sampling and laboratory analysis of two weed grassed fill/soil stockpiles found on the vacant land on the eastern side of the site (facing Old Canterbury Road). This is to characterise the degree and nature of any contaminants that may be present in these stockpiles and classification for any further off-site disposal (if required);

4. Given the history of storage and handling procedures on site being poor during the operating history of the factory as well as regular complaints regarding strong odours from the site suggest that there may have been spillages of chemicals and products stored within these buildings, six additional investigations by the means of intrusive subsurface sampling within the northern portions of factory where heavy staining, corrosion, salt deposits and dusts were observed;

5. A Remediation Action Plan (RAP) be prepared and notification to Council in accordance with the local government guidelines.

6. Excavation and removal of the USTs, delivery lines, vent pipes and associated petroleum impacted site soils in accordance with WorkCover NSW Authority and Australian Institute of Petroleum guidelines.

7. Excavation and removal of the TPH-impacted fill/soils from the area of BH9.

8. Excavation and removal of the PAH-impacted fill/soils from the areas of BH2, BH9, BH18 and BH23.

9. Classification and off-site disposal of any contaminated soils in accordance the DECC (2008) *Waste Classification Guidelines.*

10. Confirm that tank pit and excavated areas are left free of contamination by comparing analytical results for excavation surfaces and any backfill material, against the respective DEC/EPA thresholds.

11. Preparation of a final site validation report by a qualified environmental consultant, certifying site suitability for the proposed development.

If site soils are to be excavated and disposed from the site, then these soils should be classified in accordance with the DECC (2008) *Waste Classification Guidelines*. Any soils to be imported onto the site for the purpose of back-filling excavated areas will also require validation testing in accordance with the relevant EPA / DECC regulatory guidelines to confirm soil suitability for the proposed land use.

It should be noted that a Hazardous Materials Audit (HMA) was not part of the scope of this assessment, and should be carried out if required prior to site demolition. A HMA should ensure that hazardous materials that may have been used within the structural components of all buildings and infrastructure are adequately addressed to protect site personnel from risk of exposure in accordance with relevant WorkCover Authority NSW guidelines.

9.0 STATEMENT OF LIMITATIONS

This Environmental Site Assessment evaluated the likelihood of site contamination resulting from previous and currently known uses of the site. This appraisal included visual inspection of ground level conditions and a review of archived data provided by local and state government authorities. It is assumed that these records were accurate and complete.

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from regulatory agencies (eg. council, DECC, etc.), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

Despite all reasonable care and diligence, the ground conditions encountered and concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events, e.g. groundwater movement and or spillages of contaminating substances. These changes may occur subsequent to EI's investigations and assessment.

EI's assessment is necessarily based upon the result of the site investigation and the restricted program of surface, subsurface and groundwater sampling, screening and chemical testing which was set out in the proposal. Neither EI, nor any other reputable consultant, can provide unqualified warranties nor does EI assume any liability for site conditions not observed or accessible during the time of the investigations.

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For and on behalf of,
ENVIRONMENTAL INVESTIGATIONS

ERIC GERGES
Environmental Projects Manager

DR VAGNER JORDEN
Principal Environmental Engineer

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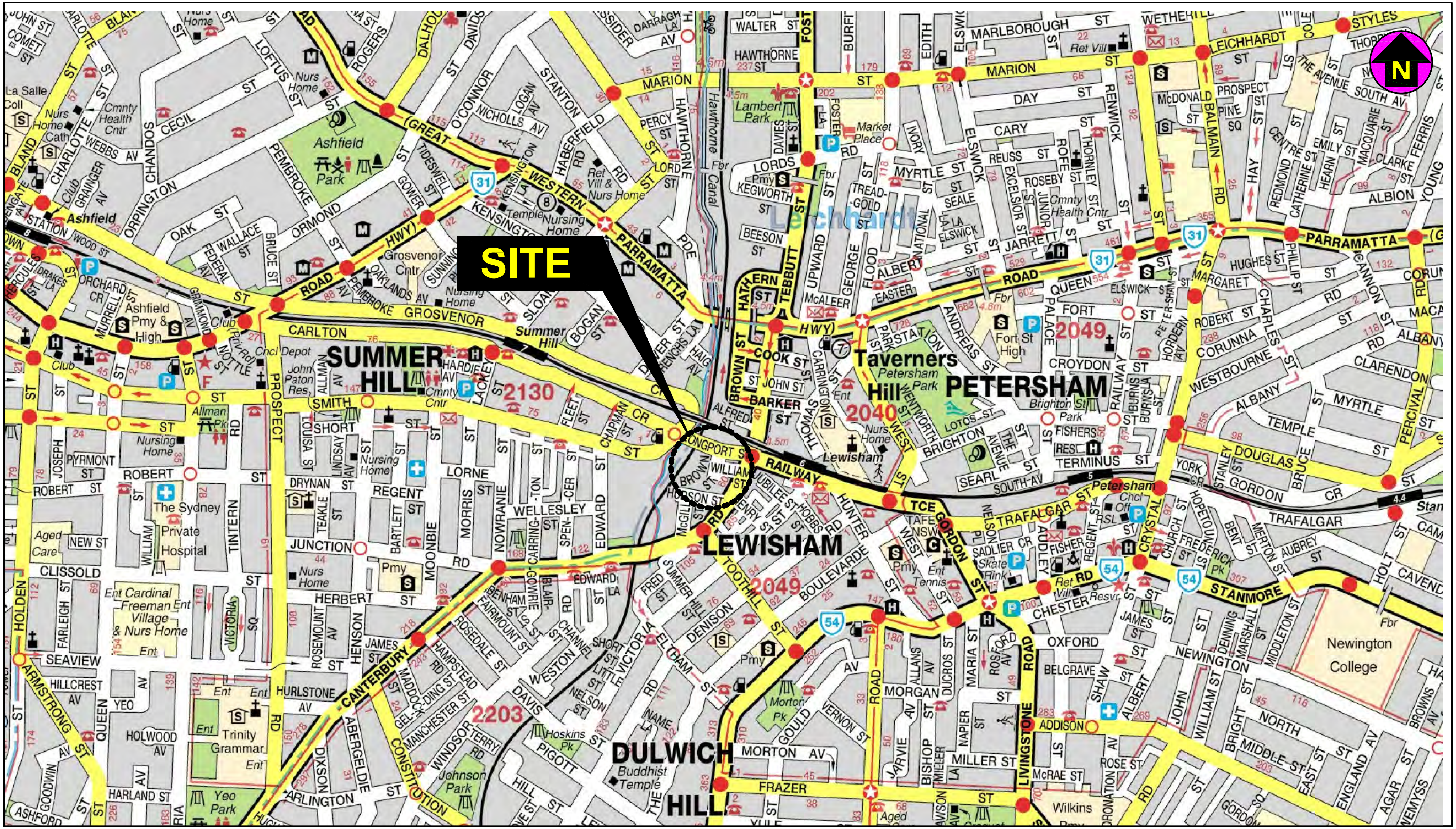
ABBREVIATIONS

AAS	Atomic Absorption Spectrometry
ACM	Asbestos Containing Material
AHD	Australian Height Datum
AST	Aboveground Storage Tank
ANZECC	Australian and New Zealand Environment Conservation Council
B(a)P	Benzo(a)Pyrene
BGL	Below Ground Level
BH	Borehole
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
COC	Chain of Custody documentation
DECC	Department of Environment and Climate Change, New South Wales.
DP	Deposited Plan
DQO	Data Quality Objective
EI	Environmental Investigations
EIL	Ecological Investigation Level
EPA NSW	Environment Protection Authority, New South Wales
ESA	Environmental Site Assessment
GC-ECD	Gas Chromatograph-Electron Capture Detector
GC-FID	Gas Chromatograph-Flame Ionisation Detector
GC-MS	Gas Chromatograph-Mass Spectrometer
HIL	Health Based Investigation Level
ICP-AES	Inductively Couple Plasma – Atomic Emission Spectra
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NHMRC	National Health and Medical Research Council
OCPs	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PID	Photoionisation Detector
PQL	Practical Quantitation Limit
P&T	Purge & Trap
QC	Quality Control
RAC	Remediation Acceptance Criteria
RAP	Remediation Action Plan
RPD	Relative Percentage Difference
SILs	Soil Investigation Levels
SWL	Standing Water Test
TP	Test Pit
TPHs	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
UCL	Upper Confidence Limit

FIGURES



Environmental Investigations
Contamination Assessment Management & Geotechnical
P O Box 215, ST PETERS 2044
Ph (02) 9516 0722 Fax (02) 9516 0741

Drawn:	V.J	**Lewisham Estate Pty Ltd** Environmental Site Assessment 78-90 Old Canterbury Road, Lewisham, NSW. Site Locality Plan	Figure: 1
Approved:	N.K		
Date:	07-10-09		
Approx Scale:	1:20000		Project: E1074.1

LEGEND

- Borehole Locations
- Borehole / Monitoring Well Locations
- Approx. Site Boundaries

0 10 20 30 40 50
Approx. Scale (m)

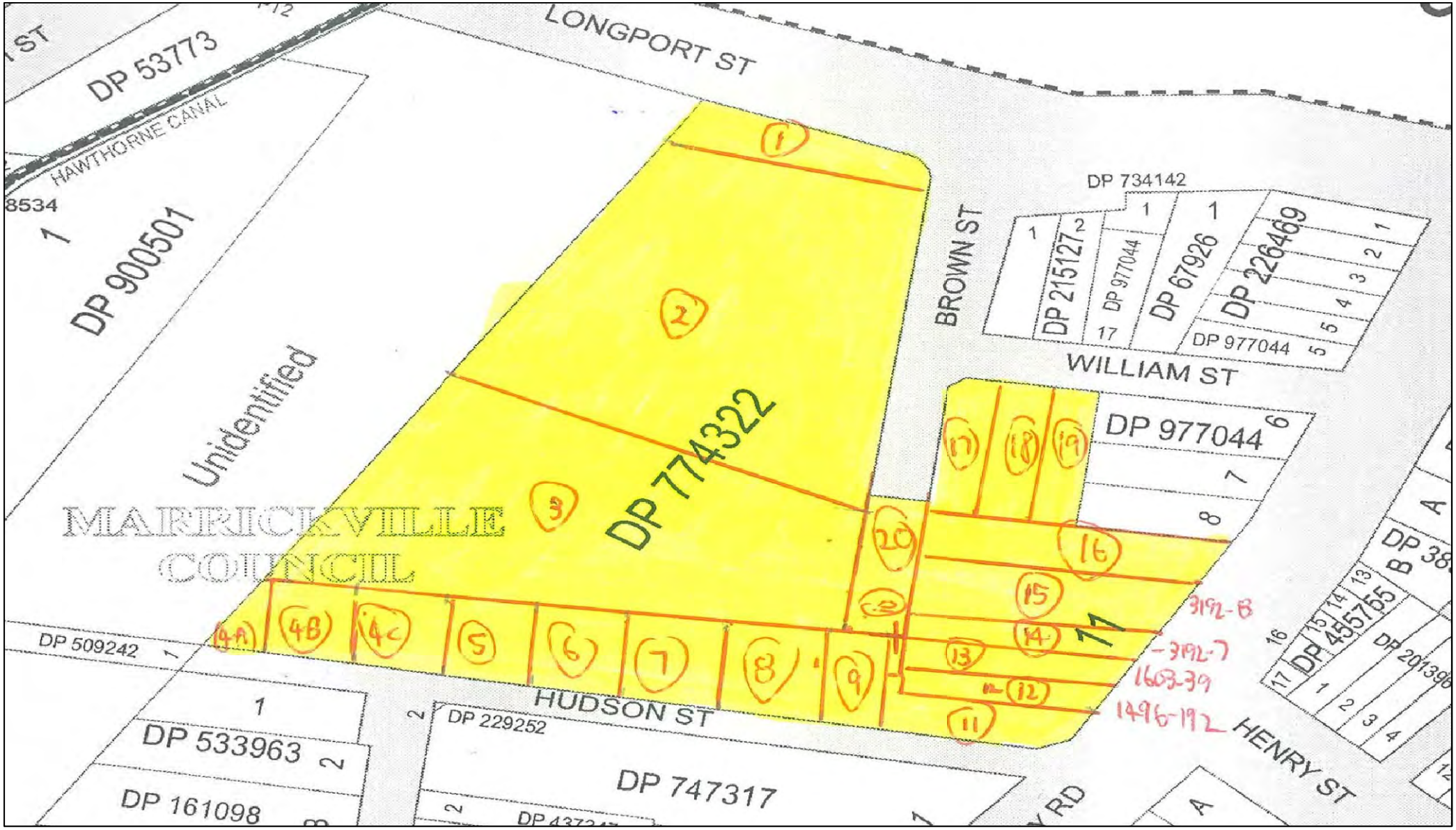
Environmental Investigations
Contamination Assessment Management & Geotechnical
P O Box 215, ST PETERS 2044
Ph (02) 9516 0722 Fax (02) 9516 0741

Drawn:	V.J
Approved:	E.G
Date:	07-10-09
Approx Scale:	N.T.S

Lewisham Estate Pty Ltd
Environmental Site Assessment
72-78 Old Canterbury Road, Lewisham, NSW.
Sampling Location Plan

Figure: 2

Project: E1074.1



Environmental Investigations
Contamination Assessment Management & Geotechnical
P O Box 215, ST PETERS 2044
Ph (02) 9516 0722 Fax (02) 9516 0741

Drawn:	V.J
Approved:	N.K
Date:	07-10-09
Approx Scale:	N.T.S

Belgrave Holdings Pty Ltd
Environmental Site Assessment
78-90 Old Canterbury Road, Lewisham, NSW.
Tittle Seach Plan

Figure: 3

Project: E1073.1

APPENDIX A

NSW Natural Resource Atlas (NRAtlas) Licenced Bores

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Monday, September 21, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW110183

Works Details (top)

GROUNDWATER NUMBER	GW110183
LIC-NUM	10BL163466
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Auger
OWNER-TYPE	Other Govt
COMMENCE-DATE	
COMPLETION-DATE	2004-12-20
FINAL-DEPTH (metres)	30.00
DRILLED-DEPTH (metres)	13.20
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	R T A
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6249422.00
EASTING	327289.00
LATITUDE	33 52' 53"
LONGITUDE	151 7' 57"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CONCORD
PORTION-LOT-DP	2//1023083

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CONCORD
PORTION-LOT-DP	7010 93651

Construction (top)

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

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	3.00	150			Auger
1		Hole	Hole	3.00	30.00	96			Auger

Water Bearing Zones (top)

no details

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.50	0.50	FILL		
0.50	1.50	1.00	SILTY CLAY		
1.50	3.00	1.50	SHALE		
3.00	13.20	10.20	SHALE		
13.20	13.20	0.00	SANDSTONE		

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Monday, September 21, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW106854

Works Details (top)

GROUNDWATER NUMBER	GW106854
LIC-NUM	10BL163505
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	2006-03-07
FINAL-DEPTH (metres)	
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	ALLAN
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6247103.00
EASTING	327879.00
LATITUDE	33 54' 9"
LONGITUDE	151 8' 18"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	ALEXANDRIA
PORTION-LOT-DP	1 367856

Licensed (top)

COUNTY	CUMBERLAND
PARISH	ALEXANDRIA
PORTION-LOT-DP	1 367856

Water Bearing Zones (top)

no details

Drillers Log (top)

no details

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Monday, September 21, 2009

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW102402

Works Details (top)

GROUNDWATER NUMBER	GW102402
LIC-NUM	10BL157310
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	1996-01-01
FINAL-DEPTH (metres)	90.00
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6246390.00
EASTING	326938.00
LATITUDE	33 54' 31"
LONGITUDE	151 7' 41"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	GIS - Geographic Information System
REMARK	

Form-A (top)

no details

Licensed (top)

COUNTY	CUMBERLAND
PARISH	PETERSHAM
PORTION-LOT-DP	26 5924

Construction (top)

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

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	0.00	125			

Water Bearing Zones (top)

no details

Drillers Log (top)

no details

APPENDIX B

WorkCover NSW Authority Search

WorkCover NEW SOUTH WALES

Our Ref: D09/101831
Your Ref: Dr Vagner Jorden

18 August 2009

Attention: Dr Vagner Jorden
Environmental Investigations
PO Box 215
St Peters NSW 2044

Re Site: 72-78 Old Canterbury Road, Lewisham

Dear Dr Jorden

I refer to your site search request received on 14th August 2009 requesting information on a Licence to Keep Dangerous Goods on the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licence **35/011423** relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID).

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

Yours sincerely

Leisa Robson
A/Senior Licensing Officer
Dangerous Goods Team

Clarke Packaging Pty. Ltd.

PAPER BAG MANUFACTURERS AND PRINTERS

MEMBER CLARKE/PAKRITE GROUP OF COMPANIES

78 OLD CANTERBURY ROAD
LEWISHAM 2049 AUSTRALIA
P.O. BOX 198
ASHFIELD 2131 AUSTRALIA

Office (02) 560 3377
Freight (02) 560 3599
Fax (02) 550 0113
Telex 72871

Premises now
35-011422-8.

24th September, 1987

The Chief Inspector,
Dept. of Industrial Relations,
P.O.Box 847,
DARLINGHURST. 2010

Dear Sir,

RE: LICENCE FOR THE KEEPING OF DANGEROUS GOODS.
No. 35.015676.1- EXPIRY DATE 15.5.88.

We wish to advise that on 14th September 1987 our premises at 192 Parramatta Road, Ashfield were sold to the PLUMBERS SUPPLIES CO-OP.LTD. of 196 Parramatta Road,Ashfield.

Although we have continued to occupy part of the premises (and will do so for some weeks yet), we have relinquished all use of the 5,000litre underground petrol tank, and therefore Depot No.1 shown on our Dangerous Goods Licence (enclosed) should be transferred to the new owner.

We will however continue to use Depot No.2, the 420 litre L.P. Gas Cylinder until such time as our operations are transferred to 78 Old Canterbury Road, Lewisham, where our associate Company, Pakrite Pty.Ltd.,carries on business. When that move takes place, we shall write to you again regarding disposal of the gas cylinder.

Yours Faithfully,

B. FINDLAY - COMPANY SECRETARY.

Form B

NEW SOUTH WALES—DANGEROUS GOODS ACT, 1975

LICENCE TO KEEP DANGEROUS GOODS

LICENCE NUMBER 35.015676.1

EXPIRY DATE

15th May 1985

Clarke Packaging P/L
192 Parramatta Road
ASHFIELD 2131 16

RECEIVED 18 JUN 1984

PAID

FEE PAYABLE $ 10.00

Subject to the payment of the prescribed fee the person and the premises specified are licensed for the keeping of dangerous goods in the class and quantity specified hereunder subject to the provisions of the Dangerous Goods Act, 1975, the Regulation thereunder and the conditions set out herein.

Trading Name: as above

Location of Premises: as above

Nature of Premises: Paper Bag Manufacturer

Particulars of Construction of Depots and Maximum Quantities of Dangerous Goods to be kept at any one time—

ST 425 D. WEST, GOVERNMENT PRINTER

Depot No.	Type of depot	Storage capacity	Product being kept	Class
1	Underground Tank	5000 l	Petrol	3.1
2	Cylinder Store	420 l	L.P. Gas	2.1

Dangerous Goods Branch,
Box 846, P.O.
DARLINGHURST 2010
(6th Floor, 1 Oxford Street)

H. N. BLACKMORE,
Chief Inspector of
Dangerous Goods

This licence is not transferable to any other premises. If any alteration is made to storage please return this licence together with full details. If transfer of licence is required FULL names of new occupier/s (including given names) must be furnished.

Renewals of this licence should be kept with this licence.

DEPARTMENT OF INDUSTRIAL RELATIONS

LICENCE No. 3501423-8

DANGEROUS GOODS ACT, 1975 DG * Sept 84

APPLICATION FOR LICENCE (or AMENDMENT or TRANSFER of LICENCE) FOR THE KEEPING OF DANGEROUS GOODS

DATA ENTERED
1 NOV 1983
OPERATOR FOUR

VERIFIED OK

Application is hereby made for *a licence (or amendment of the licence) / the transfer of the licence for the keeping of dangerous goods in or on the premises described below.

(*delete whichever is not required)

FEE: $10.00 per Depot for new licence.
$10.00 for amendment or transfer.

Name of Applicant in full (see over)	AUSTRALASIAN CONFERENCE ASSOCIATION LTD.
Trading name or occupier's name (if any)	T/A. SANITARIUM HEALTH FOOD CO.
Postal address	P.O. BOX 160 SUMMER HILL Postcode 2130
Address of the premises including street number (if any)	78-90 OLD CANTERBURY RD SUMMER HILL Postcode 2130
Nature of premises (see over)	FOOD FACTORY / WHAREHOUSE
Telephone number of applicant	STD Code 02 Number 560 7366

INSPECTORS FIELD COLLECTION
RECEIPT No. 39219
DATE 26.10.83
AMOUNT $70.00
chq

Particulars of type of depots and maximum quantities of dangerous goods to be kept at any one time.

Depot number	Type of depot (see over)	Storage capacity	Dangerous goods: Product being stored	C & C Office use only DD 007 120 7
1	UNDERGROUND	13,500	3·1 PETROL	2 020 14
2	" "	11,500	3·1 "	2 020 14
3	" "	11.000	3·1 "	2 020 14
4	ABOVE GROUND	7.500	2·1 L.P.G.	1 100 83
5	" "	4.500	2·1 "	1 100 53
6	" "	4.500	2·1 "	1 100 53
7	" "	4.500	2·1 "	1 100 53
8				
9				
10				
11				
12				

Has site plan been approved? Yes ~~No~~ If yes, no plans required. If no, please attach site plan.

Have premises previously been licensed? Yes ~~No~~ If yes, state name of previous occupier. AS ABOVE.

Name of company supplying flammable liquid (if any) MOBIL OIL Co. GASMAC (BOTANY BAY)

Signature of applicant ..... Date 26/10/83

For external explosives magazine(s), please fill in side 2.

FOR OFFICE USE ONLY

CERTIFICATE OF INSPECTION

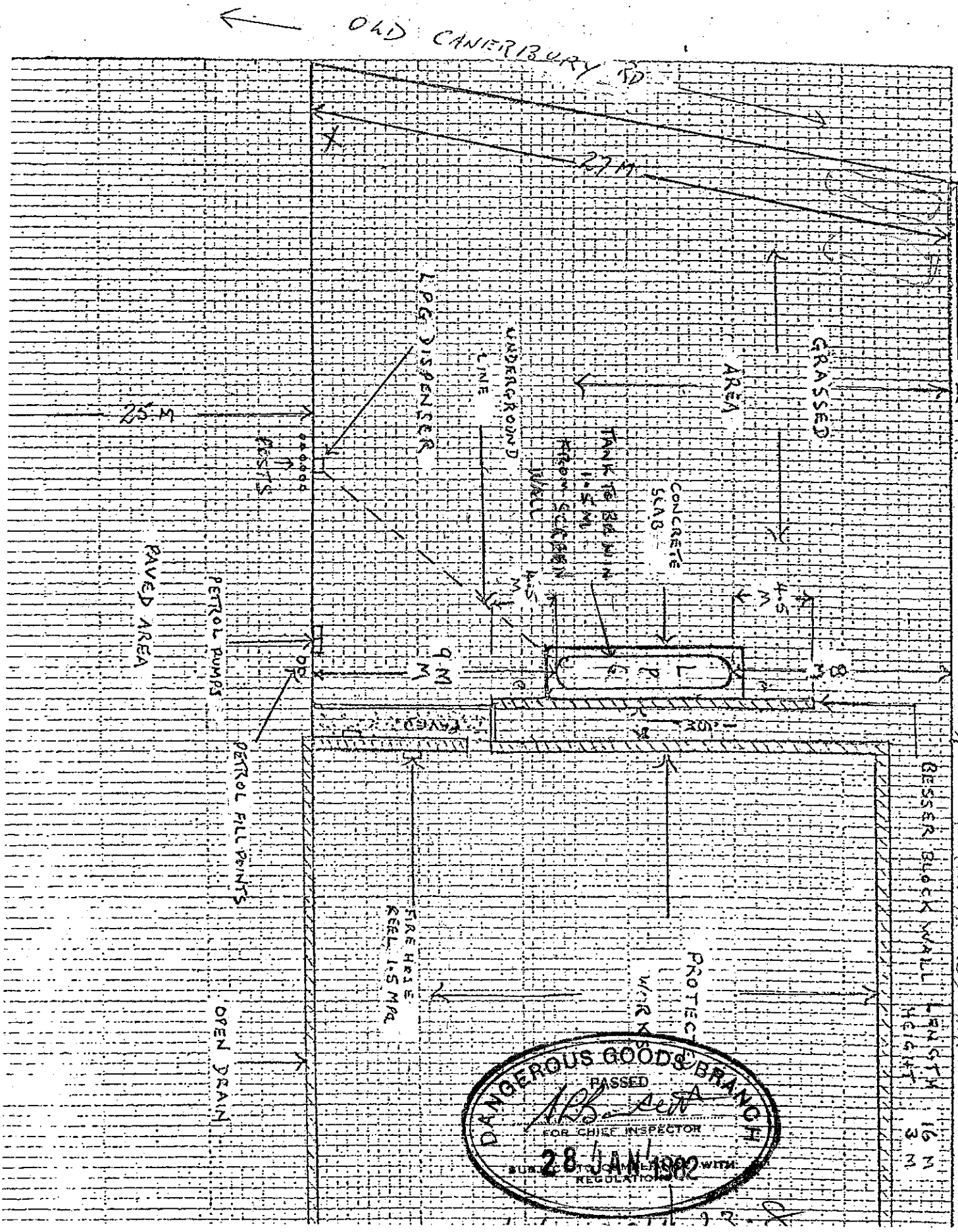
I, John Charles Richards being an Inspector under the Dangerous Goods Act, 1975, do hereby certify ~~that the~~ premises described above do comply with the requirements of the Dangerous Goods Act, 1975, and the Dangerous Goods Regulation with regard to their situation and construction for the keeping of dangerous goods of the nature and in the quantity specified.

SIZE: 6·5 KL (3 TONNE) APPLICATION: AUTOMOTIVE DISPENSER

5 MM : 1 METRE REP: N. WALKINGTON DWG: 181

GAS (NSW) PTY LTD, BURROWS ROAD SOUTH, ST PETERS 2044

SKETCH SUBMITTED TO MINES DEPT BY: N. WALKINGTON DATE: APPROVED DATE
NOT APPROVED



DANGEROUS GOODS BRANCH
PASSED
FOR CHIEF INSPECTOR
28 JAN 1982
SUBJECT TO COMPLIANCE WITH REGULATIONS

INFLAMMABLE LIQUID ACT, 1915

APPLICATION FOR: REGISTRATION OF PREMISES / STORE LICENCE / AMENDMENT TO REGISTRATION OR LICENCE — C — FOR THE KEEPING OF INFLAMMABLE LIQUID AND/OR DANGEROUS GOODS. 9

Name of Occupier ~~AUSTRALASIAN CONFERENCE ASSOCIATION LTD~~ SANITARIUM HEALTH FOOD CO.

(Surname) P.O. BOX 160, SUMMER HILL N.S.W. 2130 (First Names)

Trading Name (if any)

Postal Address SANITARIUM HEALTH FOOD CO. P.O. BOX 160, SUMMER HILL N.S.W. 2130 Postcode

Address of the premises in which the depot or depots are situated 78-90 OLD CANTERBURY RD LEWISHAM Postcode 2049

Occupation FOOD MANUFACTURERS & WHOLESALERS

Nature of Premises FOOD FACTORY & STORE.

Particulars of construction of depots and maximum quantities of inflammable liquid and/or dangerous goods to be kept at any one time. Amendment

PLEASE SKETCH SITE ON BACK OR ATTACH PLAN

Depot No.	Construction of depots *			Inflammable Liquid		Dangerous Goods						
	Walls	Roof	Floor	Mineral spirit litres	Mineral oil litres	Class 1 litres	Class 2 litres	Class 3 kg	Class 4 m^3	Class 5A# litres	Class 5B# litres	Class 9 litres
1	underground		Tanks	15000								
2	✓		✓	11,700								
3	✓		✓	10,000								
4	✓		✓	5000								
5	Aboveground		Tanks							5000		
6	✓		✓							5000		
7	✓		✓							5000		
8												
9												
10												
TOTAL												

SUSPENSE A/C. $21.00 refunded by [illegible] $21.00 31/8/76. cheque no. 486940 dated 1/9/76 (Date)

Receipt No. 4231.

PUBLIC REVENUE A/c [illegible] $4.00 (A) 31/8/76 (Date) Receipt No. 4230

* If kept in tanks describe depots as underground or aboveground tanks.

\# Insert water capacity of tanks or cylinders.

Name of Company supplying inflammable liquid Mobil

Have premises previously been licensed? Yes B11422

If known, state name of previous occupier p.p. SANITARIUM HEALTH FOOD CO. Aust. Conf. Assn. Ltd., Props.

Signature of applicant [signature] Accountant Date 30-8-76

CERTIFICATE OF INSPECTION

I, Ronald Arthur Conway being an Inspector under Inflammable Liquid Act, 1915, do hereby certify that the premises or store described above does comply with the requirements of that Act and regulations with regard to its situation and construction for the keeping of inflammable liquid and/or dangerous goods in quantity and nature specified.

Signature of Inspector R. Conway.

FORM B
Page 1

Register No. 11423

INFLAMMABLE LIQUID ACT, 1915 (AS AMENDED)

Application for Registration of Premises or Store Licence under Division B. or for the transfer alteration or amendment of any such Registration or Licence, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915 (as amended), for the ensuing year.

Mobil

DIRECTIONS

$4-50

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Box R.216, Royal Exchange Sydney, N.S.W. 2000 and must be accompanied by the prescribed fee, as set out hereunder:

Registration of Premises (Fee ~~$3.00~~ p.a.) – For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions; reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil. $9-00

Store License, Div. A (Fee, ~~$6.50~~ p.a.) – For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1, 2 and 9.

Store License, Div. B (Fee, See Regulation 7) – For quantities exceeding 4,000 gallons of mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3. $18-00

For the keeping of Dangerous Goods of Classes 3 and/or 4. ($~~15.00~~ p.a.).

Fees for the keeping of inflammable liquid and dangerous goods in excess of the above stated quantities and also for Liquid Petroleum Gas storage are set out in Regulation 7.

1. Name of occupier including full christian names. — AUSTRALASIAN CONFERENCE ASSOCIATION SANITARIUM HEALTH FOOD COMPANY

Trading Name (if any)

ocality of the premises in which the depot or depots are situated — No. or Name 78-90 OLD CANTERBURY ROAD; Street LEWISHAM; Town

Postal address — NSW Postcode 2049.

2. Occupation

3. Nature of premises (dwelling, garage etc.) — FOOD STORAGE + DISTRIBUTION

. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

PLEASE ATTACH PLAN OF PREMISES

Depot No.	Construction of depots*			Inflammable liquid		Dangerous goods					
	Walls	Roof	Floor	Mineral spirit gallons	Mineral oil gallons	Class 1 gallons	Class 2 gallons	Class 3 lb	Class 4 cu ft	Class 5A water gal	Class 9 gallons
1	Underground Tanks			3000							
2	✓		✓	2000							
3	✓		✓	1000							
4	Aboveground Vessel									1000	
5	✓		✓							1000	
6	✓		✓							1000	
7										18.00	
8											
9										31/8/72	
10										9551	

* If product is kept in tanks describe depots as underground or aboveground tanks.

Signature of applicant [signature]

Date of application 29. 8. 1972

$18.00

REQUEST FOR CONSUMER EQUIPMENT

V61 Pads 50 - 6/69

CUSTOMER NAME	Sanitarium Health Food Co.	CUSTOMER NO.	6536171-1
NAME & ADDRESS OF S/S OR BUSINESS	78 Old Canterbury Rd Lewisham		
COUNCIL PERMIT N/R.	CREDIT RATING 30	TERRITORY NO.	1003.

RESELLER	INDUSTRIAL	PLEASE ARRANGE TO –	INSTALL	REMOVE	RELOCATE	REPLACE
☐	☑		☑	☐	☐	☐

EQUIPMENT REQUIREMENTS

PRODUCT	PUMPS MANUAL	PUMPS SINGLE	PUMPS DUAL	HOSE LENGTH (In Feet)
Super Gas				

UNDERGROUND TANKS NO.	UNDERGROUND TANKS SIZE	OVERHEAD TANKS NO.	OVERHEAD TANKS SIZE
1	3000		

COMPLETE FOR ELECTRIC METER PUMPS ONLY		ELECTRICITY CONNECTED		YES		NO
MEASUREMENT – BASE OF NEAREST PUMP TO SWITCHBOARD						
TYPE OF CURRENT		A.C.		D.C.	VOLTS	CYCLES
WILL SWITCHBOARD ALLOW FOR AN ADDITIONAL FUSE FOR EACH PUMP				YES		NO

INITIAL FILL DETAILS

N.B. A DIRECT FILL MEANS A SAVING OF APPROXIMATELY $80 PER TANK

(FOR AN INDIRECT FILL STATE REASON IN JUSTIFICATION – BELOW)

PRODUCT	GALLONS
Super Gasoline	3000

DETAILS OF EXISTING MOBIL EQUIPMENT

METER PUMPS S	METER PUMPS D	METER PUMPS N.C.	MANUAL PUMPS S	MANUAL PUMPS D	MANUAL PUMPS PORT.	POWER PUMPS ELEC.	POWER PUMPS ENG.
	1						

UNDERGROUND TANKS 500	1000	2000	3000	4000	5000	6000
	1	1				

HOISTS	COMPRESSOR	LIGHTING	O/HD. REELS	A&W UNITS	METERS	

OVERHEAD TANKS 500	1000	2000	3000	

Tear Off

RETURN THIS SECTION TO – J O'Malley Commercial Sales

JUSTIFICATION OF WORK TO BE DONE (SKETCH OF SITE PLAN SHOWN ON REVERSE SIDE)

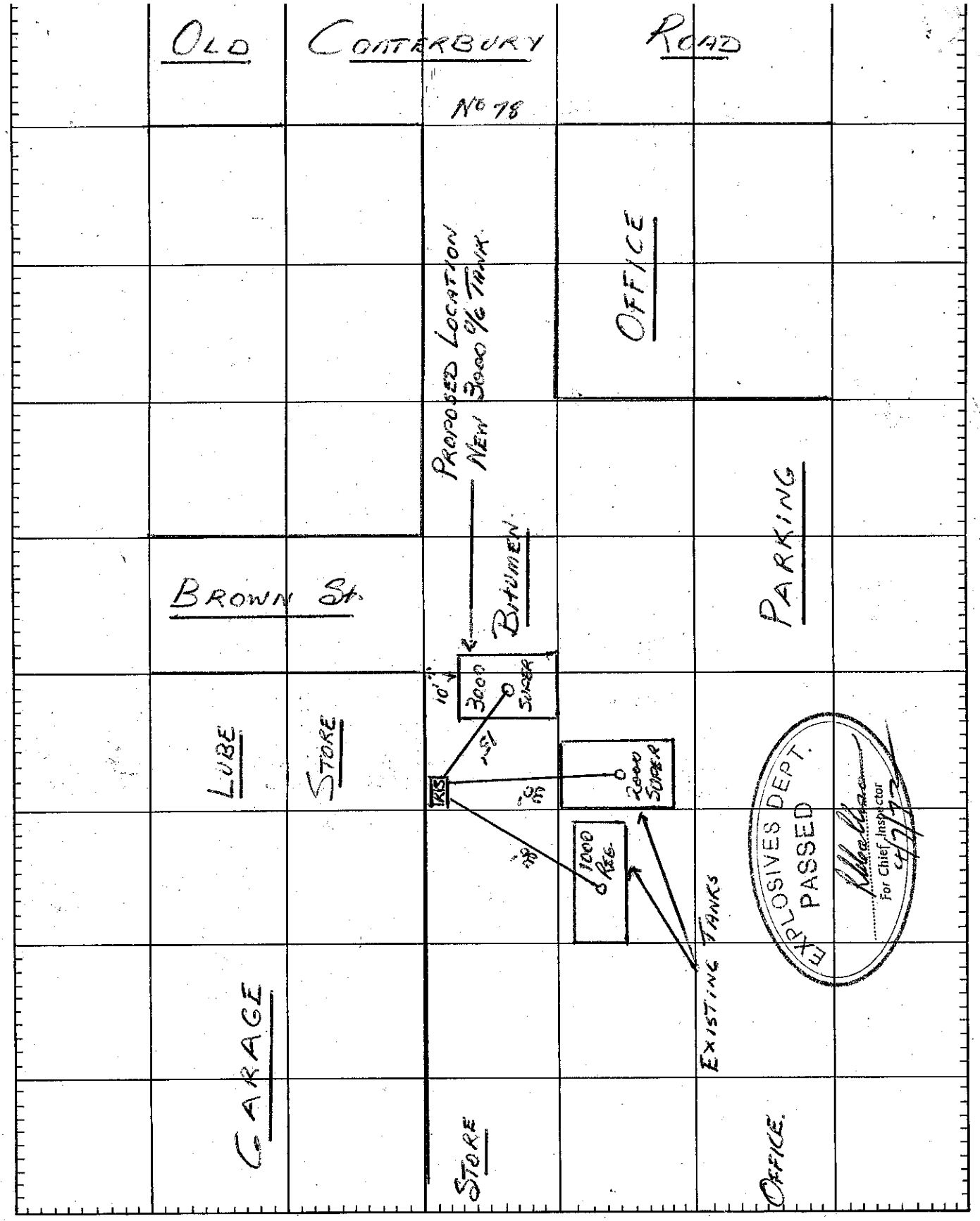
CUSTOMER NAME & ADDRESS Sanitarium Health Food Co.

CUSTOMER NO. 6536171-1. TERR. NO. 1003.

Sanitarium recently re-negotiated Contract with Dept of Railways which has resulted in less stringent Controls being placed on the movement of Materials by this Company to & from Lewisham. Mgr. has indicated this will mean a substantial increase in Super Gas usage & has requested extra

EXISTING

PRODUCT	REBATE	VOLUME
Super	9.5 d	38000
Regular	9.5 d	12000
[illegible]		[illegible]



SHOW ON PLAN — Clearly mark Product on Pumps and Tanks, enter special information. Tear Off

POSITION OF PUMPS — Tank (s) — Vent Pipe (s) — Fill Point (s) — Switchboard

MEASUREMENTS — Base of Pump(s) to centre of Tank(s) — Tank(s) to nearest wall for vent, or to a post — Show height of wall or post — Tank(s) to Fill Point(s)

TYPE OF GROUND — i.e. concrete, bitumen, gravel, etc.

GENERAL INFORMATION — If other than a new installation show clearly Pumps, Tanks, Lines that are to be removed, relocated or replaced. To comply with explosive regulations, Fill Points must be outside the building, and at least 5' from the nearest door or window. Vents must be 3' clear of doors, windows or other openings.

EXCAVATION DETAILS —

	Length	Width	Depth		Length	Width	Depth
[illegible] Tank	9' 0"	4' 10"	6' 6"	4000 gln. Tanks	19' 0"	8' 6"	9' 6"

F.M.B.

Register No. 11423

INFLAMMABLE LIQUID ACT, 1915-1953.

Application for Registration of Premises or Store License under Division B or for the transfer, alteration or amendment of any such Registration or License, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915-53, for the ensuing year. 31-8-56.

EXPLANATORY

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.

Mineral Spirit—includes petrol, benzene, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class 1.—Acetone, amyl acetate, butyl acetate, carbon bisulphide; any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.—Nitro-cellulose (also known as "pyroxylin" and "collodion cotton") moistened with an alcohol, butyl alcohol (also known as "butanol"), methylated spirits, vegetable turpentine; and any liquid or solid containing methylated spirits, having a true flashing point of less than 150 degrees Fahrenheit.

Class 3.—Nitro-cellulose product.

Class 4.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, No. 4 Albert Street, off Phillip Street, Circular Quay, Sydney (Box 48, G.P.O.), and must be accompanied by the prescribed fee, as set out hereunder:—

Registration of Premises (Fee, 15s. p.a.).—For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions; reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, £1 10s. p.a.).—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1 and 2.

Store License, Div. B (Fee, £3 p.a.).—For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.
For the keeping of Dangerous Goods of Classes 3 and/or 4.

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915–1953, or Police Officer, or other officer duly authorised in that behalf, and where the premises are situated outside the Metropolitan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

p.p. SANITARIUM HEALTH FOOD CO.
Aust. Cons. Assn. Ltd., Props.

1. Name in full of occupier ... ... — Aust. Cons. Assn. Ltd., Props.

2. Occupation ... ... — Manufacturers & Distributors Accountant

3. Locality of the premises in which the depot or depots are situated — No. or Name ____ Street Brown Town Lewisham

4. Nature of premises (Dwelling, Garage, Store, etc.)... ... ... — Factory

5. Will mineral spirit be kept in a prescribed underground tank depot ? — yes

6. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots.			Inflammable Liquid.		Dangerous Goods.			
	Walls.	Roof.	Floor.	Mineral Spirit. Gallons.	Mineral Oil. Gallons.	Class 1. Gallons.	Class 2. Gallons.	Class 3. lb.	Class 4. cub. ft.
1	Underground Tank			1,100					
2	Underground Tank			800					
3	Underground Tank			500					
4									
5									
6									
7									
8									
9									
10									

p.p. SANITARIUM HEALTH FOOD CO.
Aust. Cons. Assn. Ltd., Props.

Signature of Applicant E. J. Hand Accountant.

Date of Application 19-9-1955 Postal Address Brown St Lewisham

CERTIFICATE OF INSPECTION.

I Douglas M. Wagstaff being an Inspector under the Inflammable

FORM   Register No. 11423

AMENDMENT

INFLAMMABLE LIQUID ACT, 1915-1946.

Application for Registration of Premises or Store License under Division A or for the transfer, alteration or amendment of any such Registration or License, for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915-46, for the ensuing year.

18 JUL 1949

EXPLANATORY.

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.

Mineral Spirit—includes petrol, benzine, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class 1.—Acetone, amyl acetate, butyl acetate, carbon bisulphide ; any combination of substances of an inflammable character suitable for use as an industrial solvent and having a true flashing point of less than 73 degrees Fahrenheit.

Class 2.—Nitro-cellulose (also known as "pyroxylin" and "collodion cotton") moistened with an alcohol, butyl alcohol (also known as "butanol"), methylated spirits, vegetable turpentine ; and any liquid or solid containing methylated spirits, having a true flashing point of less than 150 degrees Fahrenheit.

Class 3.—Nitro-cellulose product.

Class 4.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS.

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Department of Mines, Bridge-street, Sydney, and must be accompanied by the prescribed fee, as set out hereunder :—

Registration of Premises (Fee, 10s. p.a.).—For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together ; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots ; or 500 gallons of mineral spirit, if kept in an underground tank depot ; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept under the like conditions ; reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

Store License, Div. A (Fee, £1. p.a.).—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1 and 2.

Store License, Div. B (Fee, £2. p.a.).—For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.

For the keeping of Dangerous Goods of Classes 3 and/or 4.

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915–1946, or Police Officer, or other officer duly authorised in that behalf, and where the premises are situated outside the Metropolitan Area of Sydney, it is requested that such certificate be obtained prior to forwarding application.

1. Name in full of occupier ... Trading as Sanitarium Health Food Co. Australian Conference Assn of 7th day Adventists

2. Occupation... Food Processors & Distributors

3. Locality of the premises in which the depot or depots are situated... 1/9.
No. or Name
Street Brown St.
Town Lewisham

4. Nature of premises (Dwelling, Garage, Store, etc.) ... Factory & Warehouse

5. Will mineral spirit be kept in a prescribed underground tank depot? yes

6. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots.			Inflammable Liquid.		Dangerous Goods.			
	Walls.	Roof.	Floor.	Mineral Spirit. Gallons.	Mineral Oil. Gallons.	Class 1. Gallons.	Class 2. Gallons.	Class 3. lb.	Class 4. cub. ft.
1	Underground Tank.			1100			Ch	10/-	
2	"			800.					
3									
4									
5									
6									
7									
8									
9									
10									

Public Revenue Account
Date 18 JUL 1949
Receipt No. 4415

SANITARIUM HEALTH FOOD CO.

Signature of Applicant [signature]

Date of Application 11 · 7 · 1949   Postal Address P.O. Box. 9. Petersham

CERTIFICATE OF INSPECTION.

William Dennis being an Inspector under the Inflam

INFLAMMABLE LIQUID ACT, 1915-1931.

APPLICATIONS for Registration of Premises or Store License under Division "A" for the keeping of Inflammable Liquid and/or Dangerous Goods, in accordance with the provisions of the Inflammable Liquid Act, 1915–31, for the year ending 30th June, 19 41

EXPLANATORY.

Inflammable Liquid—

Mineral Oil—includes kerosene, mineral turpentine and white spirit (for cleaning), and compositions containing same.

Mineral Spirit—includes petrol, benzine, benzolene, benzol and naphtha, and compositions containing same.

Dangerous Goods—

Class I.—Acetone, amylacetate, butylacetate, carbon bi-sulphide; any combination of substances of an inflammable character, other than ether alcohol, used as a solvent for nitro-cellulose or other cellulose compound, having a true flashing point of less than 73 degrees Fahrenheit.

Class II.—Nitro-cellulose, moistened with an alcohol, methylated spirits, vegetable turpentine and turpentine substitutes (other than inflammable liquid); any liquid or solid containing methylated spirits, having a true flashing point of less than 150 degrees Fahrenheit.

Class III.—Nitro-cellulose product and celluloid.

Class IV.—Compressed or dissolved acetylene contained in a porous substance.

DIRECTIONS.

1. Applications must be forwarded to the Chief Inspector of Inflammable Liquid, Explosives Department, Department of Mines, Bridge-street, Sydney, and must be accompanied by the statutory fee, as set out hereunder :—

REGISTRATION OF PREMISES (FEE, 10s.).—For quantities not exceeding 300 gallons of mineral oil and 100 gallons of mineral spirit, if kept together; or 800 gallons of mineral oil and 100 gallons of mineral spirit, if kept in separate depots; or 500 gallons of mineral spirit, if kept in an underground tank depot; or 800 gallons of mineral oil and 500 gallons of mineral spirit, if mineral spirit is kept in an underground tank depot.

In addition to, or in lieu of the above, similar quantities of Dangerous Goods of Classes 1 and 2 may be kept; reading Dangerous Goods of Class 1 for the words Mineral Spirit and Dangerous Goods of Class 2 for the words Mineral Oil.

STORE LICENSE, DIV. A (FEE, £1).—For quantities in excess of those stated above, but not exceeding 4,000 gallons mineral oil and/or mineral spirit, and/or Dangerous Goods of Classes 1 and 2.

STORE LICENSE, DIV. B (FEE, £2).—For quantities exceeding 4,000 gallons of mineral oil and/or mineral spirit, and/or dangerous goods of Classes 1 and 2, and/or dangerous goods of Class 3.

For the keeping of Dangerous Goods of Classes 3 and/or 4.

2. The certificate of inspection at foot hereof must be signed by an Inspector under the Inflammable Liquid Act, 1915–1931, or Police Officer, or other officer duly authorised in that behalf, and where the premises are situated outside the Metropolitan Area it is requested that such certificate be obtained prior to forwarding application.

1. Name in full of occupier	SANITARIUM HEALTH FOOD COMPANY
2. Occupation	MANUFACTURERS & DISTRIBUTORS
3. Locality of the premises in which the depot or depots are situated	No. or Name Brown Street, LEWISHAM
	Street
	Town SYDNEY
4. Nature of premises (Dwelling, Garage, Store, etc.)	Factory
5. Will mineral spirit be kept in a prescribed underground tank depot?	YES
6. Will mineral spirit in quantities exceeding 3 gallons be kept or used for any industrial purpose ? (State nature of industry.)	NO

7. Particulars of construction of depots and maximum quantities of inflammable liquid and/or Dangerous Goods to be kept at any one time.

Depot No.	Construction of Depots.			Inflammable Liquid.		Dangerous Goods.			
	Walls.	Roof.	Floor.	Mineral Spirit. Gallons.	Mineral Oil. Gallons.	Class 1. Gallons.	Class 2. Gallons.	Class 3. lb.	Class 4. cub. ft.
1	Underground Tank			1100					
2									
3									
4									
5									
6									
7									
8									
9									
10									

10/-
Police Revenue Acct
(Date) 29.4.41
Receipt No. 169

SANITARIUM HEALTH FO

Signature of Applicant C. Howell.

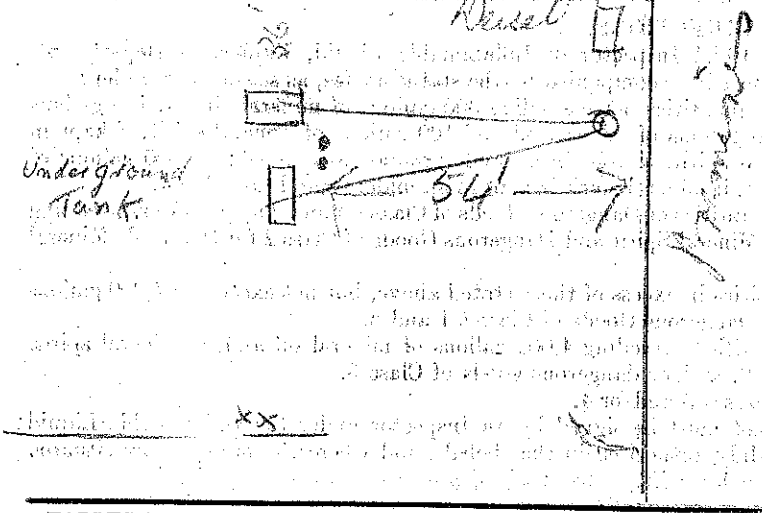
Date of Application 21/4/41. 19

Postal Address Box 9. Petersham

Make rough Sketches showing:—

Ground plans of premises showing position of depot or depots and adjacent buildings, also distances separating depots and buildings.

Sketch of depot or depots showing provision made for ventilation also inside dimensions (length, width, and depth) of the pit or lower portion, designed to prevent outflow.
This sketch is not required for underground tanks.



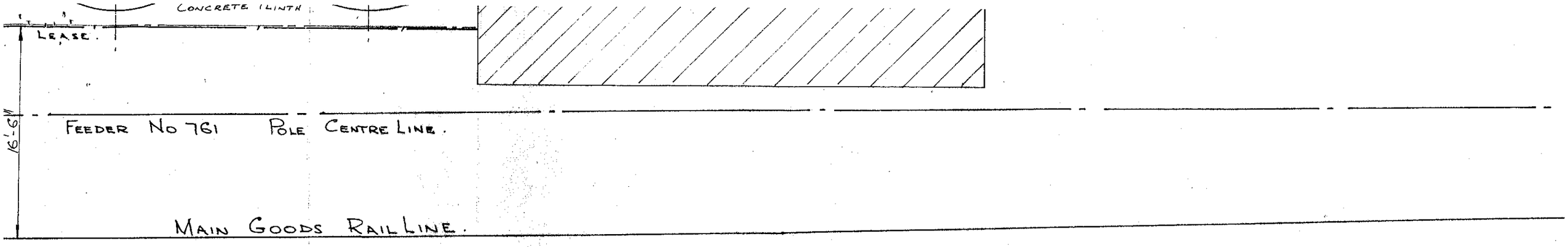
TABLES SHOWING DISTANCES WHICH UNDER LICENSE MUST SEPARATE PROTECTED WORKS FROM DEPOTS.

TABLE I.—Where Mineral Spirit and/or Dangerous Goods of Class 1 (with or without Mineral Oil and/or Dangerous Goods of Class 2) are kept or to be kept:—

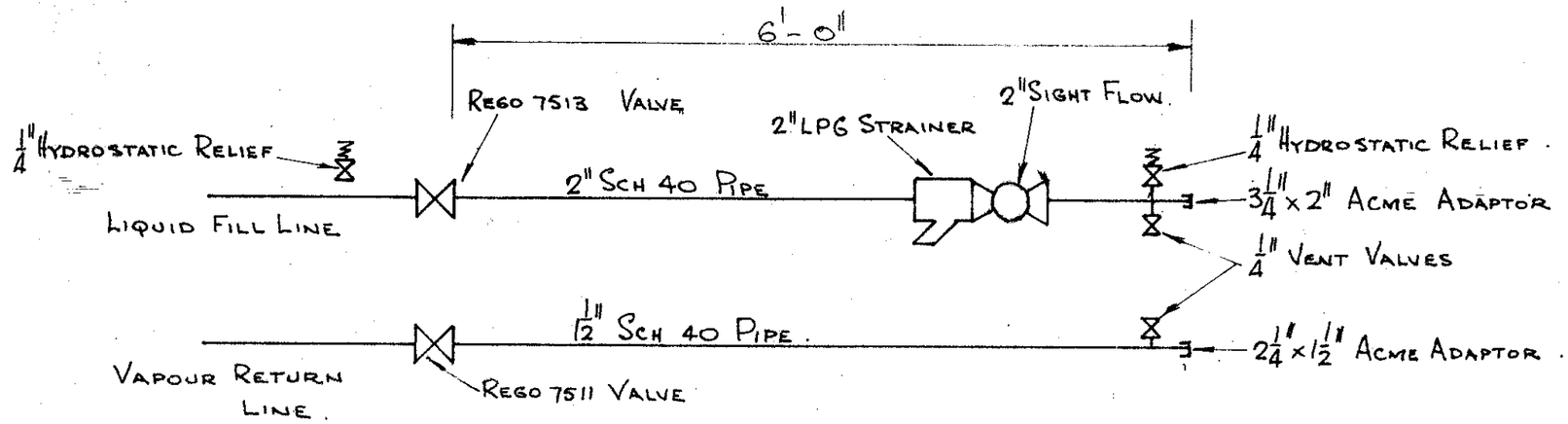
In an underground Tank Depot, in quantity exceeding 500 gallons, but not exceeding—	In an aboveground Tank Depot or other Depot wholly surrounded by a screen wall, in quantity exceeding 100 gallons, but not exceeding—	In an aboveground Tank Depot or other Depot not wholly surrounded by a screen wall, in quantity exceeding 100 gallons, but not exceeding—	Distance not less than—
Gallons.	Gallons.	Gallons.	Feet.
2,000	1,000	250	10
2,400	1,200	300	11
2,800	1,400	350	12
3,200	1,600	400	13
3,600	1,800	450	14
4,000	2,000	500	15
7,200	3,600	900	16
10,400	5,200	1,300	17
13,600	6,800	1,700	18
16,800	8,400	2,100	19
20,000	10,000	2,500	20
22,000	11,000	2,750	21
24,000	12,000	3,000	22
26,000	13,000	3,250	23
28,000	14,000	3,500	24
30,000	15,000	3,750	25
32,000	16,000	4,000	26
40,000	20,000	5,000	30
80,000	40,000	10,000	40
100,000 and over.	80,000	20,000	50
	160,000	40,000	75
	320,000 and over.	80,000	100
		120,000	115
		240,000	130
		400,000 and over.	150

TABLE II.—Where Mineral Oil and/or Dangerous Goods of Class 2 only are kept or to be kept:—

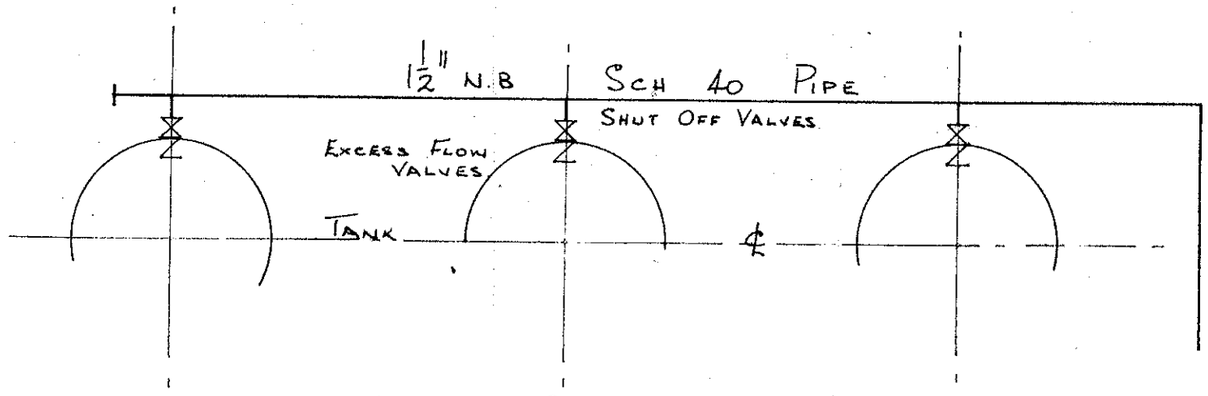
In an underground Tank Depot, in quantity exceeding 800 gallons, but not exceeding—	In an aboveground Tank Depot or other Depot wholly surrounded by a screen wall, in quantity exceeding 800 gallons, but not exceeding—	In an aboveground Tank Depot or other Depot not wholly surrounded by a screen wall, in quantity exceeding 800 gallons, but not exceeding—	Distance not less than—
Gallons.	Gallons.	Gallons.	Feet.
4,000	2,000	1,000	10
8,000	4,000	2,000	15
14,400	7,200	3,600	16
20,800	10,400	5,200	17
40,000	20,000	10,000	20
80,000	40,000	20,000	30
160,000	80,000	40,000	40
320,000 and over.	160,000	80,000	50
	320,000 and over.	160,000	75



LOCATION PLAN.



FILL POINT — SCHEMATIC ARRANGEMENT.



CONNECTIONS.

J. R. MACKENZIE AND ASSOCIATES

REVISED LAYOUT FOR 3x1000 GAL L.P.G. STORAGE TANK ON N.S.W.G.R. LEASE PROPERTY OFF HUDSON ST. LEWISHAM.

FOR SANITARIUM HEALTH FOOD CO
78 OLD CANTERBURY RD, LEWISHAM.

Scale	⅛" = 1'-0" & SCHEMATIC			C	SGE236-1/A.
DATE	13.2.68	Drawn	K.J.W.		
		Traced			
		Checked			

SANITARIUM HEALTH FOOD COMPANY — FACTORY WALL.

PRIVATE GOODS SIDING.

20'-0"

UNLOADING ANNEX.

(NO SOURCE OF IGNITION)

BOUNDARY

3'-0" GATE

AREA SHOWN SHADED TO BE 4" CONCRETE.

3'-0" GATE

OF

LIQUID LINE

VAPOUR LINE

FOR DETAILS OF FILL POINT SEE SCEMATIC ARRG'T

14'-0"

LEASE

3'-0" GATE

FIRE HYDRANT

FIRE HYDRANT

5'-0" | 5'-0" D. | 5'-0" | 5'-0" D. | 5'-0" | 5'-0" D. | 5'-0"

1000 G TANK

1000 G TANK

1000 G TANK

6'-0" CHAIN MESH MANPROOF FENCE.

GALVANISED IRON SILOS.

(NO SOURCE OF IGNITION)

EXISTING CONCRETE PLINTH

FENCE

10'-

6'-0"

10'-0"

22'-0"

6'-0"

N.S.W.G.R. LEASE PROPERTY.

BOUNDARY

OF

BOUNDARY & FENCE COINCIDENTAL

LEASE.

16'-0"

35'-0"

H.T.P.

16'-6"

FEEDER NO 761 POLE CENTRE LINE.

MAIN GOODS RAIL LINE.

LOCATION PLAN.

1" BLACK PIPE

FISHER 620 REGULATOR

APPENDIX C

Land Titles Search

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

SUMMARY AS TO OWNERS.

Property: 68 A, B, C & D Old Canterbury Lewisham

Description: - Lot 11 D.P. 774322

As regards that part marked 1 on the attached cadastre

22.06.1907	Robert John Lukey *(Secretary for the time being of the Australian Gas Light Company)*	Vol 1786 Fol 57
18.09.1913	Chief Commissioner for Railways and Tramways	Vol 2708 Fol 38
19.09.1919	Resumed and dedicated for Public Road Subsequently closed prior to 22.05.1940	
22.05.1940	Loveridge and Hudson Pty Limited	Vol 5141 Fol 3
21.07.1983	Melocco Pty Limited	Vol 5141 Fol 3
23.07.1987	Australasian Conference Association Limited	Vol 5141 Fol 3
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 2 on the attached cadastre

22.06.1907	Robert John Lukey *(Secretary for the time being of the Australian Gas Light Company)*	Vol 1786 Fol 57

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

18.09.1913	Chief Commissioner for Railways and Tramways	Vol 1786 Fol 57
16.05.1916	Thomas Allsopp *(Flour Miller)*	Vol 2678 Fol 129
31.12.1919	Frederick Allsopp John Arthur Campbell Thomas Plimsoll Allsopp *(No occupations listed)* *(We have not investigated the Transmission Application)*	Vol 2678 Fol 129
12.09.1921?	Frederick Allsopp Thomas Plimsoll Allsopp	Vol 2678 Fol 129
12.05.1921	Horace Bately Allard *(Public Accountant)* Christian Wilhelm Koefoed *(Acting Consul for Denmark)* George Herbert Turner *(No occupation listed)*	Vol 2678 Fol 129
21.09.1923	Lewisham Ice and Cold Storage Company Limited	Vol 2678 Fol 129
06.06.1929	Loveridge and Hudson Pty Limited	Vol 4322 Fol 127
09.04.1980	Melocco Pty Limited	Vol 4322 Fol 127
23.07.1987	Australasian Conference Association Limited	Vol 4322 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 3 on the attached cadastre

22.06.1907	Robert John Lukey *(Secretary for the time being of the Australian Gas Light Company)*	Vol 1786 Fol 57

email: grolly1@bigpond.net.au

18.09.1913	Chief Commissioner for Railways and Tramways	Vol 1786 Fol 57
16.05.1916	Thomas Allsopp *(Flour Miller)*	Vol 2678 Fol 129
31.12.1919	Frederick Allsopp John Arthur Campbell Thomas Plimsoll Allsopp *(No occupations listed)* *(We have not investigated the Transmission Application)*	Vol 2678 Fol 129
12.09.1921?	Frederick Allsopp Thomas Plimsoll Allsopp	Vol 2678 Fol 129
12.05.1921	Horace Bately Allard *(Public Accountant)* Christian Wilhelm Koefoed *(Acting Consul for Denmark)* George Herbert Turner *(No occupation listed)*	Vol 2678 Fol 129
21.09.1923	Lewisham Ice and Cold Storage Company Limited	Vol 4324 Fol 11
17.06.1930	Amalgamated Rabbit and Skin Export Company Limited	Vol 4324 Fol 11
15.10.1940	Henry Wall *(Master Wall)* Agnes Wall *(Married Woman)* Thomas Wall *(Master Builder)* Edith Lillian Wall *(Widow)*	Vol 5190 Fol's 38 to 41 incl.
177.03.1947	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

Leases: -

18.08.1941	Australasian Conference Association Limited	Merged 1947

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 4 on the attached cadastre

As to that part marked 4A

22.11.1912	Amelia Barrett Stevens *(Widow)*	Book 982 No. 937
08.07.1930	Priscilla Amelia Stevens *(Spinster)*	Book 1608 No. 611
03.12.1936	Percy McDowell Wade *(School Teacher)*	Book 1767 No. 293
01.04.1947	Alan Herbert Forbes *(Minister of Religion)*	Book 2014 No. 739
31.05.1949	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As to that part marked 4B

11.09.1906	Priscilla Scott *(Married Woman)*	Book 811 No. 296
08.08.1925	Gilbert Wesley Phillips *(Electrician)*	Book 1399 No. 415
12.08.1947	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878

Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As to that part marked 4C

29.12.1910	Chief Commissioner for Railways and Tramways (Now Commissioner for Railways)	Book 972 No. 329
19.09.1924	Lewisham Ice and Cold Storage Company Limited	Book 1360 No. 774
20.06.1928	Gilbert Wesley Phillips *(Electrician)*	Book 1519 No. 394
12.08.1947	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 5 on the attached cadastre

26.05.1903	Margaret Crittle *(Widow)*	Book 736 No. 515
25.08.1934	Leo Maroc *(Railway Employee)*	Book 1697 No. 471
02.09.1953	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 6 on the attached cadastre

19.05.1910	Patrick James Walsh *(Railway Storeman)*	Book 906 No. 695
04.04.1926	Mary Jane Walsh *(Widow)*	Book 1984 No. 52
08.12.1955	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 7 on the attached cadastre

25.11.1885	Robert Elson Acland *(Plasterer)* (& His deceased estate)	Book 367 No. 686
18.11.1947	John Thomas Parnell *(Employee of the Australian Gas Light Company*	Book 2037 No. 440
05.04.1956	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 8 on the attached cadastre

12.01.1924	Percy Tressider *(Caterer)*	Book 1331 No. 706

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

08.03.1949	Lewis Ward *(Company Director)* Eric Ward *(Company Director)*	Book 2079 No. 583
01.09.1959	Eric Ward *(Company Director)*	Book 2757 No. 4
14.10.1966	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 9 on the attached cadastre

27.03.1905	Thomas Ryan *(Carter)*	Vol 1597 Fol 138
05.03.1923	Barry Flaherty *(Laborer)*	Vol 1597 Fol 138
18.07.1938	William Mounser *(Electrician)*	Vol 1597 Fol 138
03.03.1948	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 10 on the attached cadastre

06.11.1908	Mary Elizabeth Witherford *(Spinster)*	Vol 1920 Fol 238
15.03.1916	Anne Hynds *(Widow)*	Vol 1920 Fol 238

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

15.10.1923	Andrew Jones *(Railway Employee)*	Vol 1920 Fol 238
04.01.1957	Margaret Clare Baistow *(Married Woman)*	Vol 1920 Fol 238
06.08.1969	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 11 on the attached cadastre

14.05.1908	Ethel May Stewart *(Married Woman)*	Vol 1920 Fol 96
11.03.1912	Edgar Whitbread *(Sign writer)* Annie Harriett Whitbread *(Married Woman)*	Vol 1920 Fol 96
17.09.1931	Annie Harriett Whitbread *(Widow)*	Vol 1920 Fol 96
16.06.1950	Edgar Raymond Whitbread *(Designing Engineer)* Annie Olive Coles *(Married Woman)* *(We have not investigated the Transmission Application)*	Vol 1920 Fol 96
05.12.1950	Walter Hodge *(Green Grocer)* Doris May Hodge *(Married Woman)*	Vol 1920 Fol 96
25.06.1959	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 12 on the attached cadastre

04.02.1908	Alicia Campbell *(Married Woman)*	Vol 1496 Fol 192
08.08.1947	Eleanor Annie Campbell *(Spinster)* *(We have not investigated the Transmission Application)*	Vol 1496 Fol 192
03.12.1957	Max Mervyn Bullock *(Furnace Hand)* Lillian Sophia Bullock *(Married Woman)*	Vol 1496 Fol 192
13.09.1973	Lillian Sophia Bullock *(Widow)*	Vol 1496 Fol 192
25.02.1974	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 13 on the attached cadastre

17.04.1905	Mary Elizabeth Witherford *(Spinster)*	Vol 1603 Fol 39
15.03.1916	Anne Hynds *(Widow)*	Vol 1603 Fol 39
15.10.1923	Andrew Jones *(Railway Employee)*	Vol 1603 Fol 39
04.01.1957	Margaret Clare Baistow *(Married Woman)*	Vol 1603 Fol 39
06.08.1969	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

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Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 14 on the attached cadastre

13.11.1919	Winifred Mary Hardwick *(Married Woman)*	Vol 3156 Fol 79
31.01.1921	Reginald Sylvester Foster *(Government Railway Clerk)* Elsie Phoebe Foster *(Married Woman)*	Vol 3192 Fol 7
12.11.1923	Margaret Anderson *(Married Woman)*	Vol 3192 Fol 7
23.01.1962	John Joseph Anderson *(Storeman)* Alexander Francis Anderson *(Member of the Armed Forces)* Gwendoline Margaret Rogers *(Married Woman)* *(We have not investigated the Section 94 Application)*	Vol 8341 Fol 226
03.10.1962	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

As regards that part marked 15 on the attached cadastre

13.11.1919	Winifred Mary Hardwick *(Married Woman)*	Vol 3192 Fol 8
07.07.1921	Lydia Whitham *(Married Woman)*	Vol 3192 Fol 8
14.10.1921	Henry Duggan O'Brien *(Clerk)* Cecelia O'Brien *(Married Woman)*	Vol 3192 Fol 8
21.01.1928	Mary Jane Fahy *(Spinster, Home Duties)*	Vol 3192 Fol 8
02.05.1956	Australasian Conference Association Limited	Vol 12985 Fol 127

email: grolly1@bigpond.net.au

ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878

Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

15.10.1987	Raydraw Pty Limited	11/774322

Easements: -

1912 and 1919 Storm water Channel

For search continued as to this parcel, See page No. 15

As regards that part marked 16 on the attached cadastre

25.09.1915	Joseph Wells *(Contractor)*	Vol 2609 Fol 222
28.01.1918	Peter Bailey *(Small Goodsman)* Ada Margaret Bailey *(Married Woman)*	Vol 2862 Fol 6
13.01.1922	Norman Paul King *(Electrician)*	Vol 2862 Fol 6
13.08.1925	Herbert Henry Papworth *(Book Maker)*	Vol 2862 Fol 6
28.10.1931	Susan Papworth *(Widow)* Edgar Henry Papworth *(Clerk)* Herbert Ernest Papworth *(Laborer)* *(We have not investigated the Transmission Application)*	Vol 2862 Fol 6
24.04.1945	Edgar Henry Papworth *(Clerk)*	Vol 2862 Fol 6
11.07.1945	Jack Craig & Sons Pty Limited	Vol 2862 Fol 6
26.03.1956	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

Easements: -

1914 Storm water Channel

For search continued as to this parcel, See page No. 15

As regards that part marked 17 on the attached cadastre

09.01.1919	Joseph Wells *(Contractor)*	Vol 2903 Fol 94
19.03.1919	Kenneth MacKenzie *(Ship Wright)*	Vol 2903 Fol 94
21.06.1927	Leslie Joseph Mildenhall *(Store Keeper)*	
08.11.1927	Henry James Jackson *(Fuel Merchant)*	
01.08.1930	Richard St Lawrence Smith *(Retired Civil Servant)*	Vol 2903 Fol 94
03.04.1936	Annie Sarah Smith *(Widow)* *(We have not investigated the Transmission Application)*	Vol 2903 Fol 94
09.08.1948	Mabel Stein *(Married Woman)* *(We have not investigated the Transmission Application)*	Vol 2903 Fol 94
13.02.1952	Millicent Grace Smith *(Spinster)* *(We have not investigated the Transmission Application)*	Vol 8303 Fol 30
08.08.1961	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

Easements: -

1914 Storm water Channel

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

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ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 18 on the attached cadastre

09.01.1919	Joseph Wells *(Contractor)*	Vol 2903 Fol 93
27.08.1919	Henry Seavers *(Domestic Engineer)*	Vol 2903 Fol 93
10.03.1920	War Service Homes Commissioner	Vol 2903 Fol 93
30.06.1926	Clara Elliott *(Married Woman)*	Vol 2903 Fol 93
19.09.1938	Percy John Morley *(Motor Bus Driver)* *(We have not investigated the Transmission Application)*	Vol 4971 Fol 191
15.08.1938	Leslie Norman Hestelow *(Clerk)*	Vol 4971 Fol 191
23.11.1967	Robert Dennis Hull *(Salesman)*	Vol 4971 Fol 191
19.12.1967	Roberto Passerini *((Floor Tiler)* Anna Maria Passerini *(Married Woman)*	Vol 4971 Fol 191
14.12.1973	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

Easements: -

1914 Storm water Channel

As regards that part marked 19 on the attached cadastre

13.08.1917	Leslie Norman Hestelow *(Clerk)*	Vol 2749 Fol 88
17.02.1961	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

Service First Registration Pty Ltd
ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

As regards that part marked 20 on the attached cadastre

This parcel of land was formerly part of Brown Street which was shown as a Road Circa 1907

This part was subsequently closed by notification in Government Gazette in 1964

08.01.1965	Australasian Conference Association Limited	Vol 12985 Fol 127
15.10.1987	Raydraw Pty Limited	11/774322

For search continued as to this parcel, See page No. 15

email: grolly1@bigpond.net.au

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ACN: 108 037 029
Ph: 02 9233 1314
Fax: 9233 2878
Suite 102, Level 1, 64 Castlereagh Street
Sydney 2000
PO Box 1539 Sydney 2000
DX 189 Sydney

Search continued as to the whole of the subject lands

15.03.1984	Callmask Pty Limited	11/774322
08.08.2005	# Lewisham Estates Pty Ltd	11/774322

 # Current Registered Proprietor

Leases, continued: -

14.06.1979	Sydney County Council (Substation No. 4427) Together with a Right of Way and easement for electricity purposes. The leases listed on the historical identifier 11/774322 have not been investigated	
11.02.1976	Easements to Drain Water 0.535 wide (D.P. 580963)	

email: grolly1@bigpond.net.au

Department of Lands
Reliable from the ground up

Cadastral Records Enquiry Report

Ref : 29

Requested Parcel : Lot 11 DP 774322

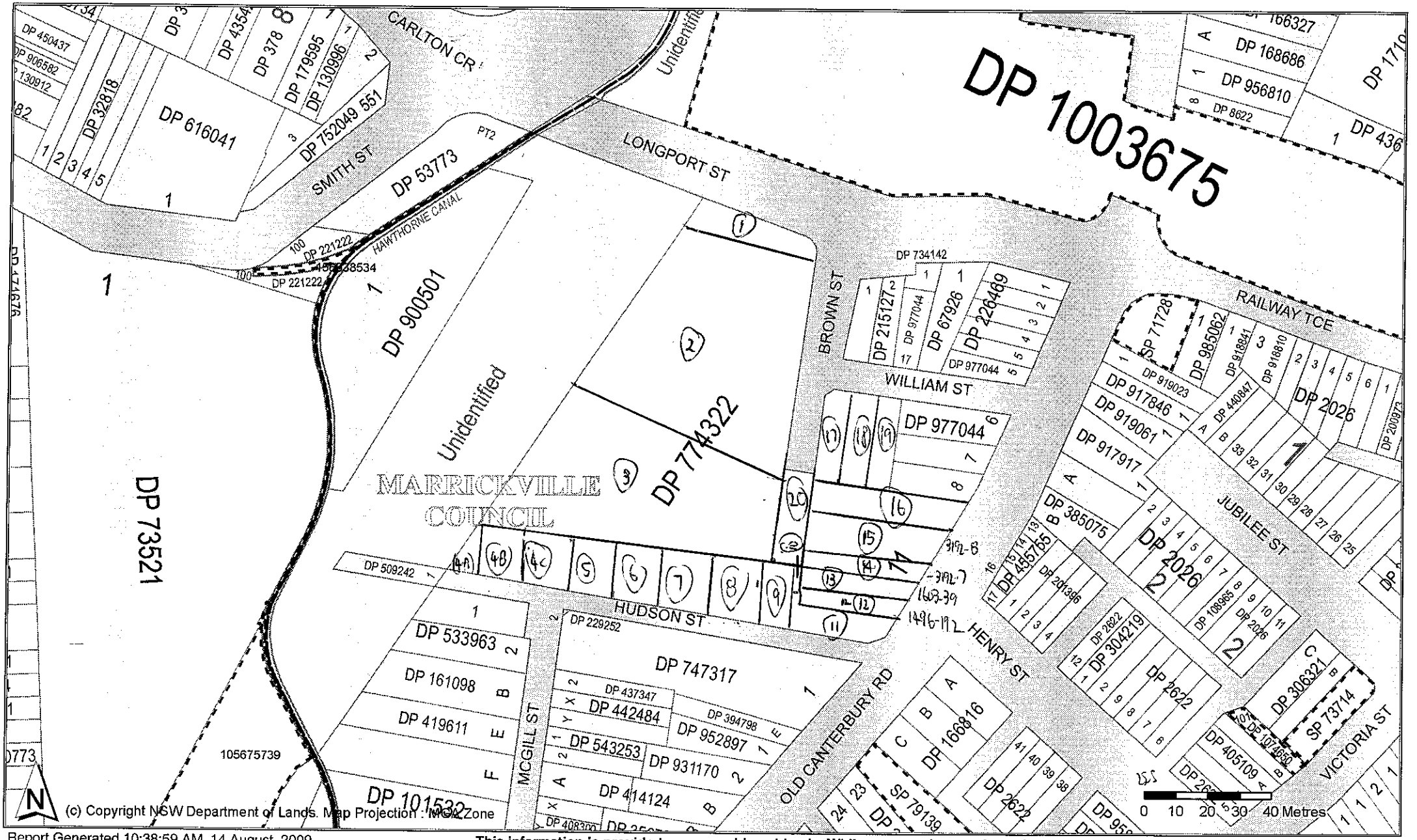
Identified Parcel : Lot 11 DP 774322

Locality : LEWISHAM

LGA : MARRICKVILLE

Parish : PETERSHAM

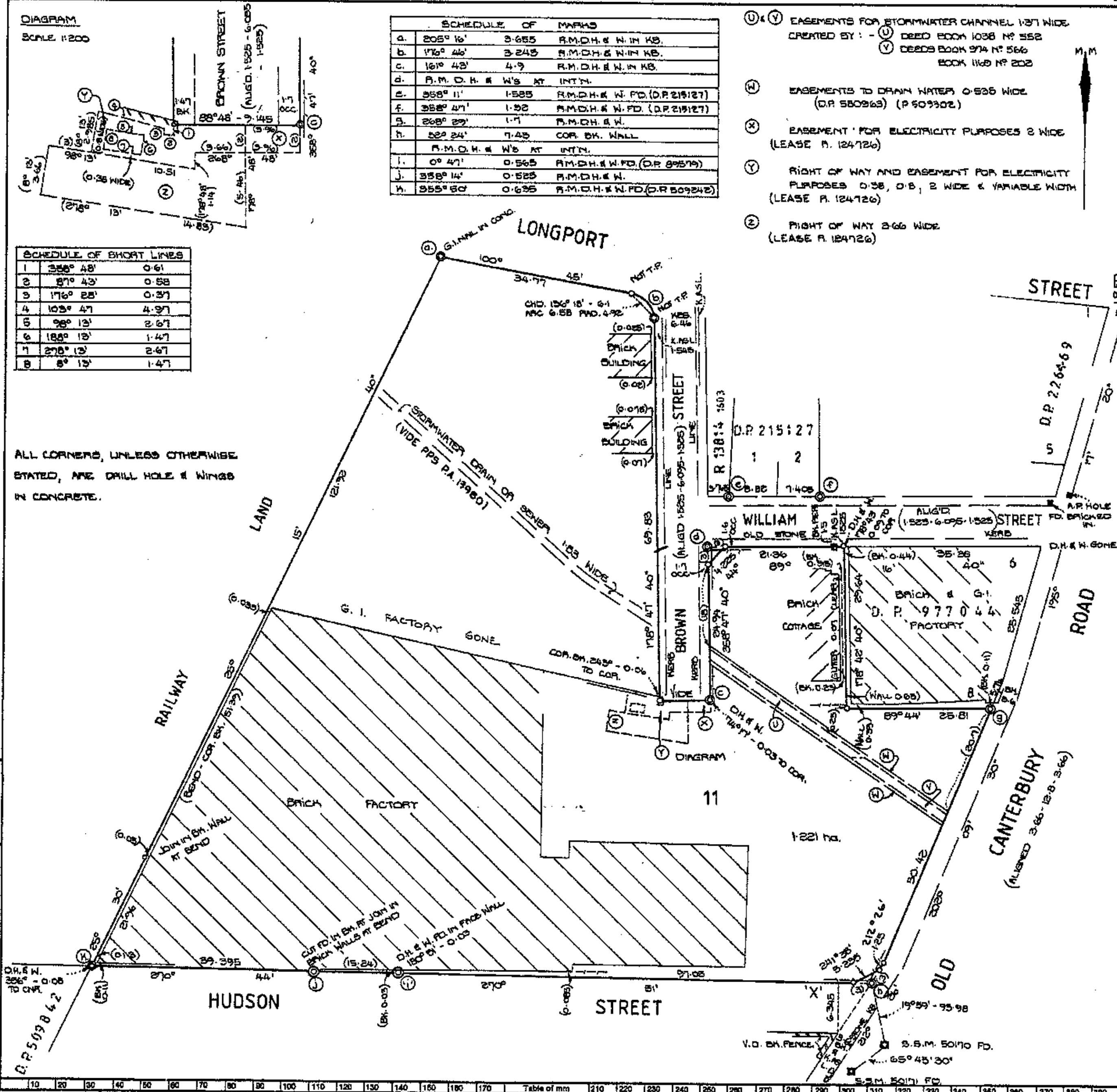
County : CUMBERLAND



Report Generated 10:38:59 AM, 14 August, 2009

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



SCHEDULE	OF	MARKS	
a.	205° 16'	3·655	R.M.D.H. & W. IN KB.
b.	176° 46'	3·245	R.M.D.H. & W. IN KB.
c.	161° 43'	4·9	R.M.D.H. & W. IN KB.
d.	R.M. D. H. & W's AT INT'N.		
e.	358° 11'	1·585	R.M.D.H. & W. FD. (D.P. 215127)
f.	358° 47'	1·52	R.M.D.H. & W. FD. (D.P. 215127)
g.	268° 29'	1·7	R.M.D.H. & W.
h.	52° 24'	7·45	COR. BK. WALL
	R.M.D.H. & W's AT INT'N.		
i.	0° 47'	0·565	R.M.D.H. & W. FD. (D.P. 89579)
j.	358° 14'	0·525	R.M.D.H. & W.
k.	355° 50'	0·635	R.M.D.H. & W. FD. (D.P. 509242)

SCHEDULE OF SHORT LINES		
1	358° 48'	0·61
2	87° 43'	0·58
3	176° 28'	0·37
4	103° 47	4·97
5	98° 13'	2·67
6	188° 13'	1·47
7	278° 13'	2·67
8	8° 13'	1·47

ALL CORNERS, UNLESS OTHERWISE STATED, ARE DRILL HOLE & WINGS IN CONCRETE.

(U) & (V) EASEMENTS FOR STORMWATER CHANNEL 1·37 WIDE CREATED BY : - (U) DEED BOOK 1038 Nº 552 (V) DEEDS BOOK 974 Nº 566 BOOK 1160 Nº 202

(W) EASEMENTS TO DRAIN WATER 0·535 WIDE (D.P. 580963) (P 509302)

(X) EASEMENT FOR ELECTRICITY PURPOSES 2 WIDE (LEASE R. 124726)

(Y) RIGHT OF WAY AND EASEMENT FOR ELECTRICITY PURPOSES 0·38, 0·8, 2 WIDE & VARIABLE WIDTH (LEASE R. 124726)

(Z) RIGHT OF WAY 3·66 WIDE (LEASE R. 124726)

SIGNATURE AND SEALS ONLY.

As mortgagee under Mortgage ... Westpac Banking Corporation hereby consents to the ... plan of subdivision. Dated at Sydney this fourth day of March, 1988.

Signed Sealed and Delivered for and on behalf of WESTPAC BANKING CORPORATION by its Attorney who hereby states at the time of his executing this instrument he has no notice of the revocation of the Power of Attorney registered in the office of the Registrar General No. 734 Book 3778 under the authority of which he has executed this instrument.

by ... its duly constituted Attorney who is personally known to me.

WEATHER HOBLE ...
Manager Legal, New South Wales Division
388 PITT STREET SYDNEY Bank Officer

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 34S 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 ....consolidated lot....
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. ....1/88.......
Date ....11/2/88.......
(Signature) ....
Council Clerk
Council File No. ....640.1.2.T.......

*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: 22113 (L)

M.P.R.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

*OFFICE USE ONLY

DP 774322

Registered: 11-7-1988

C.A: 1/88 OF 11·2·1988

Title System: TORRENS

Purpose: CONSOLIDATION

Ref. Map: U0945-532 ~~PETERSHAM SHEET Nº 9~~

Last Plan: D.P. 324026 & D.P. 580963

PLAN OF CONSOLIDATION OF LOT 1 IN D.P. 580963, LOT A IN D.P. 324026 AND LAND IN CERTIFICATE OF TITLE VOLUME 5141 FOLIO 3.

Lengths are in metres. Reduction Ratio 1: 500

Mun./Shire ~~City~~: MARRICKVILLE

Locality: LEWISHAM

Parish: PETERSHAM

County: CUMBERLAND

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

I, GEOFFREY MARK LENTON of TIMBS & ASSOC., 27 SPENCER STREET, FAIRFIELD 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 12th JANUARY, 1988.

Signature ....
Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth: 'X' - 'Y'
‡Insert date of survey.

Plans used in preparation of survey/compilation.

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.

ICATE OF TITLE

PROPERTY ACT, 1900

Vol. 12804 Fol. 100

CANCELLED

Edition issued 12-6-1975

Appln. No. 51459

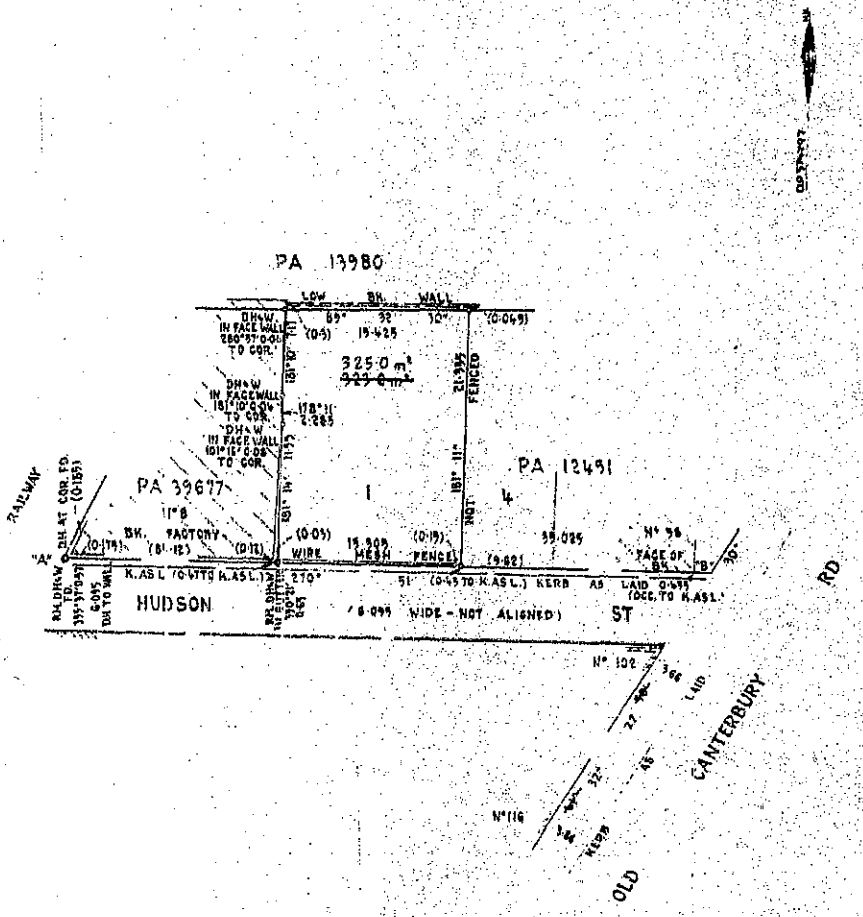
(Page 1) Vol. 12804 Fol. 100

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

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 574797 at Lewisham in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 16.18 hectares granted to George Gambling on 1-1-1810.

FIRST SCHEDULE

AUSTRALASIAN CONFERENCE ASSOCIATION LIMITED.

SECOND SCHEDULE

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

DP580963
2-11-76

Vol. 12804 Fol. 100

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General

This deed is cancelled as to the whole
New Certificates of Title have issued on 11-2-1976
for lots in ~~Deposited~~ Plan No. 580963 as Follows:-
Lots 1 Vol 12985 Fol 127 respectively.

REGISTRAR GENERAL

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION	

(Page 2 of 2 pages)

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

NEW SOUTH WALES

CERTIFICATE OF TITLE

PROPERTY ACT, 1900

Vol. 12599 Fol. 60

Appln. No. 19842

Prior Title Vol.4971 Fol.191

Edition issued 31-10-1974.

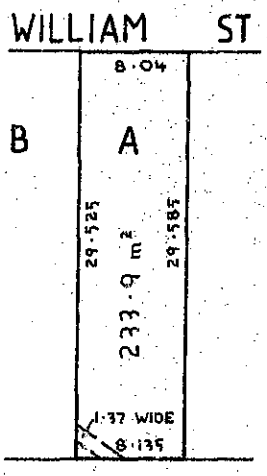
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

CANCELLED

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



N 996229

REDUCTION RATIO 1:400

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot A in Deposited Plan 982678 in the Municipality of Petersham Parish of Petersham and County of Cumberland being part of 16.19 hectares granted to George Gambling on 1-1-1810.

FIRST SCHEDULE

AUSTRALASIAN CONFERENCE ASSOCIATION LIMITED.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. Easement for storm water channel created by Deed Book 1038 No. 552 affecting the part of the land above described 1.37 metres wide shown in the plan hereon.
3. Caveat No.N874521. Entered 19-6-1974.

75M534.
DP580963
3-2-1976

Vol. 12599 Fol. 60

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
This dead is cancelled as to the Whole New Certificates of Title have issued on 11-2-1976 for lots in Deposited Plan No. 580963 as follows:- Lots 1 Vol. 12985 Fol. 127 respectively. REGISTRAR GENERAL					

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		
88B INST	P 503302		Interests created pursuant to Section 88B Conveyancing Act, 1919, by the registration of Deposited Plan 580963.	20-1-1976				

(Page 2 of 2 pages)

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

No. 1964/2685

NEW SOUTH W... SEVEN SHILLINGS A... SIX PENCE STAMP DUTY SYDNEY, N.S.W.

New South Wales

Vol. 9894 Fol. 122
Registered 12-2-1965
Registrar General.

GRANT UPON PURCHASE OF UNNECESSARY ROAD

(UNDER THE PUBLIC ROADS ACT, 1902)

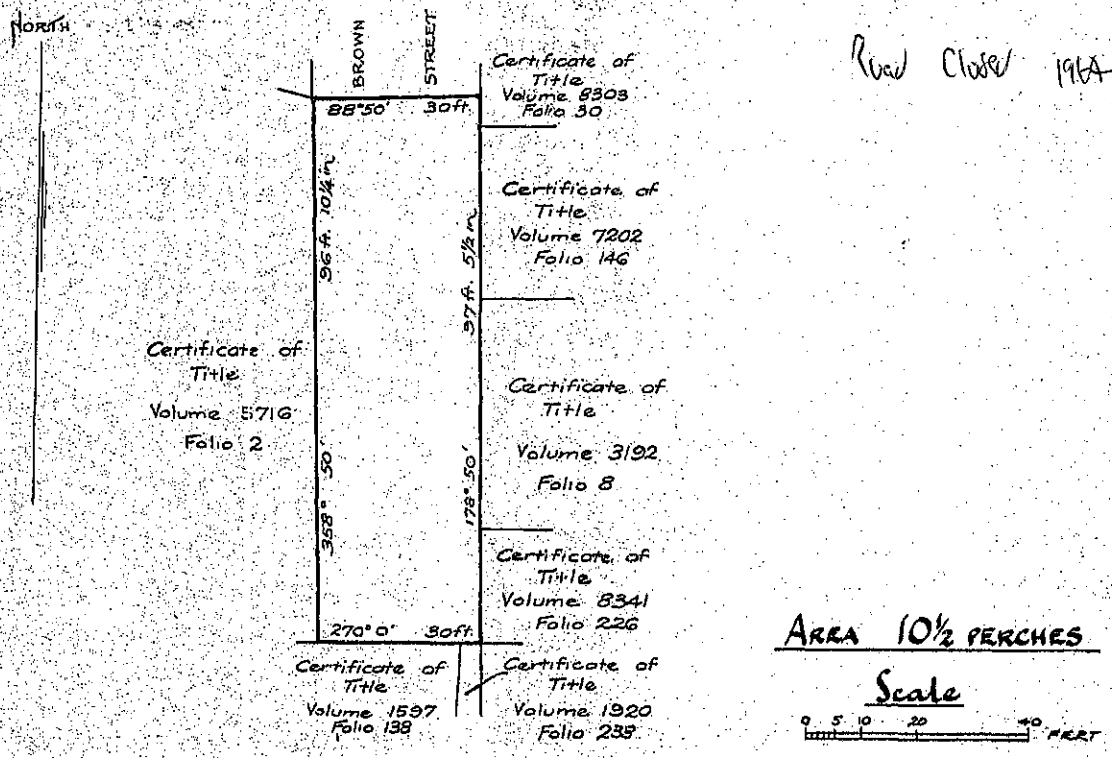
ELIZABETH the SECOND, by the Grace of God of the United Kingdom, Australia and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith.
To All to whom these Presents shall come, Greeting:—

CANCELLED

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

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

Whereas a certain road — comprising the piece or parcel of land hereinafter described was in accordance with the provisions of the Public Roads Act, 1902 relating to Unnecessary Roads in Our State of New South Wales duly closed and — the AUSTRALASIAN CONFERENCE ASSOCIATION LIMITED (hereinafter called the GRANTEE) — being the owner — of land adjoining thereto has — agreed to have the said land granted to it — upon payment of the sum of two thousand pounds being the value thereof as determined by the Local Land Board — Now Know Ye That in consideration of the said sum for and on Our behalf well and truly paid into the Treasury of Our said State before these Presents are issued and of all and singular the premises We for Us Our Heirs and Successors DO HEREBY GRANT unto the GRANTEE and its ~~Heirs and~~ Assigns Subject to the Reservations and Exceptions hereinafter contained ALL THAT Piece or Parcel of Land in Our said State containing by Admeasurement ten perches and one half of a perch be the same more or less situated in the County of Cumberland Parish of Petersham at Lewisham Being the closed road shown in plan catalogued No. R.28273-1603 in the Department of Lands



As per plan hereon With all the Rights and Appurtenances whatsoever thereto belonging To Hold unto the Grantee and its ~~Heirs and~~ Assigns for ever Provided Nevertheless AND WE DO HEREBY RESERVE AND EXCEPT unto Us Our Heirs and Successors all minerals which the said Land contains with full power and authority for Us Our Heirs and Successors and such person or persons as shall from time to time be authorised by Us or Them to enter upon the said Land and to search for mine dig and remove the said minerals And also all such parts and so much of the said Land as may hereafter be required for public ways in over and through the same to be set out by Our Governor for the time being of Our said State or some person by him authorised in that respect with full power for Us Our Heirs and Successors and for Our Governor as aforesaid by such person or persons as shall be by Us Them or him authorised in that behalf to make and conduct all such public ways And the right of full and free ingress egress and regress into out of and upon the said Land for the several purposes aforesaid or any of them In Testimony Whereof We have caused this Our Grant to be Sealed with the Seal of Our said State

Witness Our Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this eighth day of January in the thirteenth year of Our Reign and in the year of Our Lord one Thousand nine hundred and sixty five

F. W. Woodward
Governor

FOR ENDORSEMENTS SEE PAGE 2

DP580362
B211176

St 1609 V. C. N. Blight, Government Printer

Vol. 9894 Fol. 122

SCHEDULE OF REGISTERED PROPRIETORS

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
This deed is cancelled as to the whole New Certificates of Title have issued on 11-2-1976 for lots in Deposited Plan No. 580963 as follows:- Lots 1 Vol 12985 Fol. 137 respectively. REGISTRAR GENERAL					

SCHEDULE OF ENCUMBRANCES ETC.

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION		

(Page 2 of 2 pages)

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

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

Vol. 12985 Fol. 127

Appln. Nos.12451,13980,19847, 22432,37621,38545, 39579,39677 and 51459 (as to parts)

Prior Titles:

Vol.1496	Fol.192	Vol. 6927	Fol.190
Vol.1597	Fol.136	Vol. 7208	Fol.146
Vol.1603	Fol. 39	Vol. 7344	Fol.178
Vol.1920	Fol.238	Vol. 7547	Fol. 53
Vol.2749	Fol. 88	Vol. 8301	Fol. 30
Vol.3192	Fol. 8	Vol. 8341	Fol.226
Vol.5716	Fol. 2	Vol. 9894	Fol.122
Vol.6516	Fol.225	Vol.12595	Fol. 60
Vol.6687	Fol.138	Vol.12804	Fol.100

CANCELLED [W]

EDITION ISSUED 11 2 1976

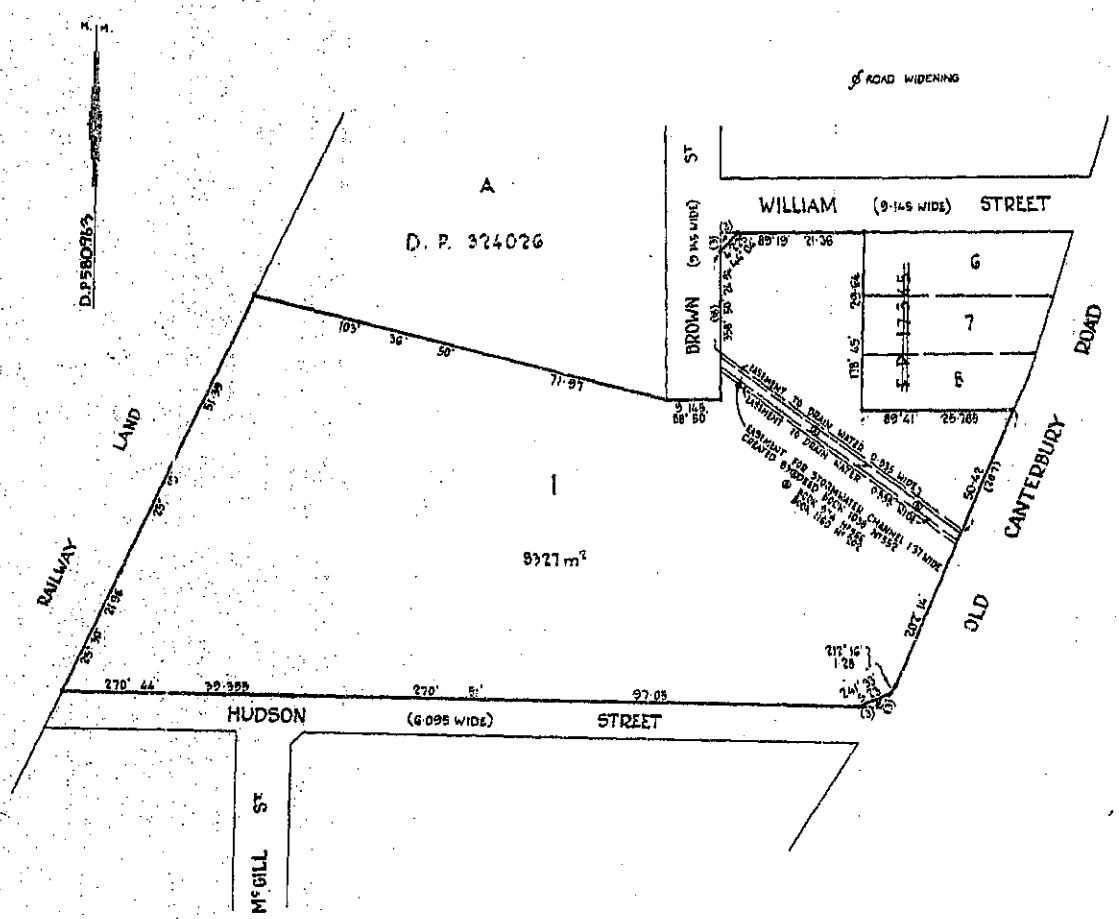
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

(Page 1) Vol. 12985 Fol. 127

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 580963 at Lewisham in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 16.19 hectares granted to George Gambling on 1-1-1810 and 265.5 square metres granted by Crown Grant Volume 9894 Folio 122. EXCEPTING THEREOUT the minerals reserved by Crown Grant Volume 9894 Folio 122.

FIRST SCHEDULE

~~AUSTRALASIAN CONFERENCE ASSOCIATION LIMITED.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to as regards part.
2. Easements for Stormwater Channel created by Deed Book 1038 No.552 (as regards the land designated A) and Deeds Book 974 No.566 and Book 1169 No.202 (as regards the land designated B) affecting the part of the land above described 1.37 metres wide shown in the plan hereon.
3. Easements to Drain Water affecting the part of the land above described 0.535 metres wide shown in the plan hereon created by the registration of Deposited Plan 580963. See P503302.

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

Vol. 12985 Fol. 127

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
Rayshaw Pty. Limited by Transfer X117662. Registered 15-10-1987					
DP/~~SP~~ 774322 Registered 11-7-1988 This folio is cancelled as to whole/~~part~~ upon creation of computer folios for lots 11 in the abovementioned plan.					

CT 22/2/79
R124726 L
— 727 ccl
X 117662 TR
663 M
DP 774322

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
~~Lease~~	~~R124726~~	~~—~~	~~Substation Premises No. 4427 as shown in plan with R124726 together with a right of way and easement for electricity purposes over other parts of the land above described to The Sydney County Council. Date of Expiry 3-10-2027.~~	14-6-1979		
X117663	Mortgage to Westpac Banking Corporation. Registered 15-10-1987					

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

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
12/8/2009 2:57PM

FOLIO: 11/774322

First Title(s): OLD SYSTEM VOL 5141 FOL 3
VOL 9894 FOL 122
Prior Title(s): VOL 4322 FOL 127 VOL 5141 FOL 3
VOL 12985 FOL 127

Recorded	Number	Type of Instrument	C.T. Issue
14/7/1988	DP774322	DEPOSITED PLAN	FOLIO CREATED EDITION 1
7/6/1993	I392594	CAVEAT	
15/3/1994	U103989	WITHDRAWAL OF CAVEAT	
15/3/1994	U103990	TSFR BY MTGEE-POWER OF SALE	
15/3/1994	U103991	MORTGAGE	
15/3/1994	U103992	MORTGAGE	
15/3/1994	U103993	MORTGAGE	EDITION 2
16/3/1994	U103994	MORTGAGE	
16/3/1994	U103995	MORTGAGE	EDITION 3
26/8/1994	U519209	LEASE	EDITION 4
6/1/1995	U920680	MORTGAGE	EDITION 5
10/3/1995	O72109	LEASE	EDITION 6
25/2/1997	2838700	LEASE	EDITION 7
16/6/1997	3134931	LEASE	EDITION 8
28/10/1997	3474976	LEASE	
28/10/1997	3474977	LEASE	EDITION 9
19/5/2000	6777701	LEASE	EDITION 10
2/10/2001	7988247	DEPT DEALING TO UPLIFT CT	EDITION 11
21/11/2001	8131920	VARIATION OF LEASE	
6/5/2005	AB461394	DISCHARGE OF MORTGAGE	EDITION 12
20/5/2005	AB492109	VARIATION OF LEASE	EDITION 13
8/8/2005	AB681088	TRANSFER	

END OF PAGE 1 - CONTINUED OVER

mg

PRINTED ON 12/8/2009

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
12/8/2009 2:57PM

FOLIO: 11/774322 PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue
8/8/2005	AB681089	MORTGAGE	EDITION 14
19/6/2007	AD197159	CAVEAT	

*** END OF SEARCH ***

mg PRINTED ON 12/8/2009

Form: 01T
Release: 3.0
www.lands.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900

AB681088C

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the collection of the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Office of State Revenue use only
Office of State Revenues NSW Treasury
option date – 20/6/03 $19
VENDOR DUTY ENDORSED
ID: Not liable –

NEW SOUTH WALES DUTY
04-08-2005 0002859286-001
SECTION 18(2)
DUTY $ **********2.00

(A) **TORRENS TITLE** 11/774322

(B) **LODGED BY**

Document Collection Box	Name, Address or DX and Telephone	CODES
48T	LLPN : 123819E CITYLINK Reference: KS - LG - LEWISHAM EST - 253179	T TW (Sheriff)

(C) **TRANSFEROR** CALLMASK PTY LIMITED (ACN 061 623 434)

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 8,600,000.00 and as regards

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

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** LEWISHAM ESTATES PTY LTD (ACN 104 456 037)

(I) **TENANCY:**

S

DATE 4 AUGUST 2005

(J) Certified correct for the purposes of the Real Property Act 1900 by the corporation named below the common seal of which was affixed pursuant to the authority specified and in the presence of the authorised person(s) whose signature(s) appear(s) below.

Corporation: CALLMASK PTY LIMITED ACN 061 623 434
Authority: section 127 of the Corporations Act 2001

Signature of authorised person:
Name of authorised person: JAMES WING ZOO CHAN
Office held: SECRETARY

Signature of authorised person:
Name of authorised person: RONALD FRANCIS HOOLAHAN
Office held: DIRECTOR

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: SABRINA JAJOO-SOLICITOR
Signatory's capacity: transferee's solicitor

13

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.
0507

DEPARTMENT OF LANDS
LAND AND PROPERTY INFORMATION DIVISION

OFF L 6777701

SFR
Service First Registration

Title Search

LEAP Searching
An Approved LPI NSW
Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 11/774322

SEARCH DATE	TIME	EDITION NO	DATE
12/8/2009	2:57 PM	14	8/8/2005

LAND

LOT 11 IN DEPOSITED PLAN 774322
AT LEWISHAM
LOCAL GOVERNMENT AREA MARRICKVILLE
PARISH OF PETERSHAM COUNTY OF CUMBERLAND
TITLE DIAGRAM DP774322

FIRST SCHEDULE

LEWISHAM ESTATES PTY LTD (T AB681088)

SECOND SCHEDULE (8 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)

2 BK 974 NO 566 BK 1038 NO 552, BK 1169 NO 202 EASEMENTS FOR STORMWATER CHANNEL AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN SO BURDENED IN THE TITLE DIAGRAM

12.1976

3 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY:
DP580963 TO DRAIN WATER 3.535 WIDE

4 R124726 LEASE TO THE SYDNEY COUNTY COUNCIL OF SUBSTATION PREMISES NO 4427 TOGETHER WITH A RIGHT OF WAY AND EASEMENT FOR ELECTRICITY PURPOSES OVER OTHER PARTS OF THE LAND ABOVE DESCRIBED AS SHOWN IN PLAN WITH R124726

5 2838700 LEASE TO PRIMEX PRODUCTS PTY LIMITED OF PART BEING THE WAREHOUSE AND A NEW OFFICE AT 78-90 OLD CANTERBURY ROAD, LEWISHAM AND SHOWN HATCHED IN PLAN WITH 2838700. EXPIRES 15-3-2001. OPTION OF RENEWAL 5 YRS.

Expired.

8131920 VARIATION OF LEASE 2838700 EXPIRY DATE NOW 15/3/2006

6 3474976 LEASE TO MORGAN EXPO-HIRE PTY LIMITED OF PART BEING THE PREMISES AT 78-90 OLD CANTERBURY ROAD, LEWISHAM SHOWN HATCHED IN PLAN WITH 3474976. EXPIRES 31.1.2005

Expired

AB492109 VARIATION OF LEASE 3474976 EXPIRY DATE NOW 31/1/2007

7 AB681089 MORTGAGE TO CAPITAL FINANCE AUSTRALIA LIMITED

* 8 AD197159 CAVEAT BY EQUITITRUST LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

mg PRINTED ON 12/8/2009

APPENDIX D

Quality Assurance / Quality Control

1 OBJECTIVE

This procedure will be used by sections to comply with NEPM requirements for QA/QC reporting.

This procedure is applicable to all Environmental samples eg from Environmental Consultants. Samples from non Environmental Consultants such as Councils, mines or trade waste etc do not have to conform with these requirements, however, it will be Envirolab Services policy that this procedure be used when ever possible.

2 DEFINITIONS

Duplicate

This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples. Other terms cited in literature, but not used here include: Reagent Blank, Control Blank, Method Blank.

Matrix Spike

A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist. Other terms cited in literature include Laboratory Fortified Matrix. It is suggested that the spiking concentration be near the middle of the calibration range.

Surrogate Spike

Surrogates are known additions to each sample, blank, matrix spike and LCS in a process batch, of compounds which are similar to the analyte of interest in terms of:

a) extraction
b) recovery through clean up procedures
c) response to chromatography or other determinations

but which:

d) are not expected to be found in real samples
e) will not interfere with quantification of any analyte of interest
f) may be separately and independently quantified

These are only applicable to organic testing.

Internal Standards

Internal standards are used to check the consistency of the analytical step (eg injection volumes, retention times etc) and provide a reference against which results may be adjusted in case of variation. For organic and some inorganic analysis, internal standards are added after all extraction, cleanup and concentration steps, to each final extract solution.

LCS (Laboratory Control Sample)

This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample. Other terms cited in literature include: laboratory control standard, quality control check sample, laboratory fortified blank.

Process Batch

A group of samples which behave similarly with respect to the sampling or the testing procedures being employed and which are processed as a unit for QC purposes. It is important that all factors within a process batch be the same. If any factors change eg

reagents, staff, standards then a new process batch is deemed to have begun.

Percent Recovery
Percent recovery describes the capability of the method to recover a known amount of analyte added to the sample.

% Recovery = C-A / B x 100

where: A = natural concentration of analyte in the sample
B = concentration of analyte added to the sample
C = concentration of analyte determined in the spiked sample

RPD (Relative Percent Difference)
This calculation measures the precision between two figures. Commonly used to compare the closeness of Duplicate results.

% RPD = Highest – Lowest/Average x 100

3 QC REQUIRED AND WHAT IS REPORTED

The following QC is required for all Environmental Samples, unless justified otherwise by a Supervisor.

Blank
At least one per process batch.
The Blanks must be labelled throughout the day eg: Blk_1-25/8/05, Blk_2-25/8/05 etc.
The Blank is reported to all clients.

LCS
At least one per process batch.
The LCS's must be labelled throughout the day eg: LCS_1-25/8/05, LCS_2-25/8/05 etc.
The LCS is reported to all clients.

Duplicate
At least one per process batch or one per ten samples, which ever is the smaller.
ie: A Duplicate is done every 10 samples.
So, if there is one process batch of 100 samples there will be 10 Duplicates.
Or, if there are 3 process batches, each of 2 samples making up the Process Batch there will be 1 Duplicate. The sample to undertake duplicate in this case is chosen by the analyst.
The Duplicate is only reported to the client if it is performed on their sample.

Matrix Spike
One for each soil or water type. eg: if a batch contains sediment, clay, compost, leachate, saline water etc then a matrix spike must be done on each sample type.
The sample type is generally judged by the Chain of Custody. If a client calls all samples 'soil' then we will treat all samples as 1 sample type (unless they are very obviously different).
If there is only one sample type eg soil, then a matrix spike is performed every 20 samples.
There is no requirement in NEPM for a Matrix Spike Duplicate.
The Matrix Spike is only reported to the client if it is performed on their sample.

4 ACCEPTANCE CRITERIA

Acceptance criteria for QC is generally specified in individual methods.
If QC fails, take corrective action promptly to determine and eliminate the source of the error. Do not report data until the cause of the problem is identified and either corrected or qualified by a supervisor.

Matrix Spikes
As a general rule, the recoveries of most analytes spiked into samples should fall within the range 70% - 130% and this range should be used as a guide in evaluating in house performance until in house limits are established.

Matrix Spikes will regularly fail, often due to matrix interferences. If a Matrix Spike fails it should be investigated:
a) check calculations and transcriptions to ensure a mistake has not been made.
b) look at the background concentration of the sample. If it is high then it is likely a matrix interference exists. As long as the LCS is acceptable then the Process Batch will be accepted.
c) If the LCS has also failed then the Process Batch is deemed to have failed and data should not be reported unless justified. The batch should be repeated after consultation with the supervisor, possibly replacing standards or reagents.

If a matrix spike has failed yet the process batch has been accepted by the supervisor, the failed matrix spike should still be reported to the client. This should be accompanied by an appropriate comment such as 'percent recovery not available due to significant background levels of analyte in the sample' or 'the matrix spike recovery was outside recommended acceptance criteria, however, an acceptable recovery was achieved for the LCS. This indicates a sample matrix interference'.

Matrix spikes are not carried out for all tests. These are mainly the inorganic tests such as TSS, pH, EC etc. In these cases an acceptable LCS is required.
Matrix spikes are also not reported for all analytes. For example in a SVOC run of 80 analytes it is acceptable to only spike a range of analytes.

LCS
As a general rule, the recoveries of most LCS's should fall within the range 70% - 130% or within the certificate value.

If an LCS fails it should be investigated.
a) check calculations and transcriptions to ensure a mistake has not been made.
b) If all other QC has passed, repeat the LCS. If the LCS fails again it should be remade and re analysed along with 10% of samples.
c) If the LCS fails after the second attempt there could be a problem with the LCS – consult the supervisor.
d) If an LCS and matrix spike fail the data cannot be accepted without qualification – consult the supervisor.
There should be an LCS available for all tests.

Duplicates
Acceptable Duplicate data is judged by % RPD.
>5 x PQL = 0-50% RPD is acceptable.
<5 x PQL = Any % is acceptable.

If a water duplicate fails you need to repeat it (if there is sufficient sample left), along with 10% of the positives from the batch.
If it fails again it is likely to be due to a matrix interference and an appropriate comment should be applied to the report such as 'the duplicate is outside acceptable %RPD, reanalysis indicates possible sample heterogeneity'. All failed duplicate results should be reported.

If a soil duplicate fails you need to repeat it (if there is sufficient sample left), along with 10% of the positive samples in the batch.
If it fails again it is likely to be due to a matrix interference and an appropriate comment

should be applied to the report such as 'the duplicate is outside acceptable %RPD, reanalysis indicates possible sample heterogeneity'. All failed duplicate results should be reported.

Surrogates
Surrogate recoveries should generally be within the range of 70-130%.
High analyte concentrations may cause surrogates to fail – this needs to be annotated on the final report.
A criteria of 50-150% is acceptable for <10% of samples in a batch – this is subject to a supervisors professional judgement and that all other QC is acceptable.

Internal Standards
Acceptance criteria for internal standards are 75-125%.
If internal standards exceed this criteria they will need to be either re-vialed and re run for organics or diluted and re run for metals. If they continue to fail consult the supervisor.

5 CHECKING THE CORRECTNESS OF ANALYTES

Anion Cation Balance
The anion and cation sums, when expressed as milliequivalents per litre, must balance because all potable waters are electrically neutral. As a minimum we must test: (Na/Ca/Mg/K and Alk/Cl/SO4).
The full calculation can be found in APHA or use the spreadsheet at
S drive;calculations;envirolab mass balance.
The acceptance criteria in APHA are very strict as they are based on potable water. The environmental waters we receive could rarely be termed potable so our % Difference has been determined to be 15%, with supervisor discretion.
If the % is >15 then by using the spreadsheet above you should be able to determine if there is a gross error – this particular test should then be repeated. If the repeat is confirmed then an appropriate comment must accompany the report such as 'the mass imbalance may be caused by other ions that have not been measured'.

TDS v Ions
Measured TDS should be similar or greater than ion calculated TDS. This is because the calculation will normally not involve ions such as F, Si, N03 etc.
0.6(alk) + Cl + SO4 + Na + Ca + Mg + K + = Approx TDS.

Measured EC and Ion sums
Both the anion & cation sums should be 1/100 of the measured EC value. If either of the 2 sums does not meet this criteria, that sum is suspect.
The calculation is: 100 x anion (or cation sum)meq/L = (0.9-1.1 EC)
The full calculation can be found in APHA or use the spreadsheet at
S drive/calculation/envirolab mass balance.

Measured TDS to EC Ratio
EC x (0.55-0.7) = TDS.
If it is outside this criteria one of the tests may be suspect. The exception is waters with high colloidal particulates that may contribute to a higher measured TDS result.

Metals – Total Recoverable v Dissolved.
In theory Total recoverable metals must be equal or higher than dissolved metals. If the difference is within the uncertainty of the individual tests then this should be stated on the report. If the difference is outside the uncertainty of the individual tests then one of the results is suspect and should be reanalysed.

Organics
Some simple checks to be aware of include:

C6-C9 should generally be greater than BTEX.

C10-C36 should be greater than PAH.

Naphthalene in VOC run should be similar to PAH run.

Nutrients
TKN should be greater than or equal to Ammonia. If the difference is within the uncertainty of the individual tests then this should be stated on the report. If the difference is outside the uncertainty of the individual tests then one of the results is suspect and should be reanalyzed.

6 CONTROL CHARTS

Control Charts should be updated after each batch of analysis. As a minimum the LCS & MS data will be entered, however, depending on the test other data such as duplicate RPD's etc may be plotted.
LCS data is a good indication of the health of the method. Matrix spike and duplicate data can vary significantly due to the nature of certain matrices so are not considered an ideal measure. If a MS result is grossly out due to a known interference there is no need to plot it.
Control charts are used to monitor trends and should alert the analyst to potential problems. These may be recorded manually or electronically. In theory all plotted data should lie within 2SD of the mean. If 4 successive points are showing a trend then action needs to be taken before the system reaches the CL.
The point at 2SD from the mean is referred to as WL (Warning Limits). If 2 consecutive results lie outside of the WL then the system is out of control and a supervisor must be consulted.
The point at 3SD from the mean is referred to as the CL (Control Limit). Results outside the CL should not be accepted unless there is a valid, documented reason.

7 STANDARDS / CALIBRATIONS

Calibration Check
For some methods such as organics and ICP a Calibration Check is done straight after the calibration. This should be an independent check (i.e. made from another source) and should be within 10% for metals and 20 % for organics. If it is outside this acceptance a new calibration will be necessary.

Continuing Calibration
A continuing calibration is done approximately every 10 samples for metals and 20 samples for organics and at the end of the run.
Acceptance should be 10% for metals and 20% for organics. If it is outside this acceptance a new calibration will be necessary.

New v's Old Standard Checks
New standards should always be compared to the old with an acceptance of 5%. For organics the acceptance criteria is 20%, as the new standard will also be compared against the independent check standard.

Expired Standards
Standards that have expired may still be used, however, need to be verified against another in date standard, CRM or confirmed by another lab. The expiry date may then be extended a further 6 months. For some analytes, such as metals, extending the expiry date for many years may be acceptable.

APPENDIX E

Borehole Logs

Environmental Investigations
Contamination Assessment Management & Geotechnical

PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH1

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Clayey sandy gravel, grey/ yellow, moist, no odour			
0.40			BH1-1		0
0.60					
		Silty Clay Mottle grey to orange/ brown, moist, moderate to high plasticity, no odour			
0.80			BH1-2		0
1.00					
1.20					
1.40			BH1-3		0
		SANDSTONE Brown to light brow highly weathered sandstone, moist, no odours.			
1.60		TC bit refusal @ 1.45m BGL			
		Borehole ended at 1.45m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical
PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH2

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
		Ground Surface			
0.00		***Concrete***			
0.20		***Fill*** Bedding sand, grey to brown, fine to coarse grained, slightly moist, no odours.	BH2-1		0
0.40		***Silty CLAY*** Light brown - mottled red, ironstone fragments, slightly moist, no odours.			
0.60			BH2-2		0
0.80		***SANDSTONE*** Brown to light brow highly weathered sandstone, moist, no odours. TC bit refusal @ 0.9m BGL			
		Borehole ended at 0.9m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical
PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH3

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
		Ground Surface			
0.00		***Concrete***			
0.20		***Fill*** Bedding sand, grey to brown, fine to coarse grained, dry, no odours.	BH3-1		0
0.40		***Silty CLAY*** Light brown, mottled red, ironstone fragments, slightly moist, no odours.			
0.60		***SANDSTONE*** Brown to light brow highly weathered sandstone, moist, no odours. TC bit refusal @ 0.7m BGL	BH3-2		0
		Borehole ended at 0.7m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical

PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH4

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***SANDSTONE*** Extremely weathered, yellow/brown, fine to medium grained, no odours	BH4-1		0
		TC bit refusal @ 0.5m BGL			
0.40			BH4-2		0
		Borehole ended at 0.5m			

FCR = FIELD CONTAMINATION RANKING

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2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical

PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH5

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
		Fill Sandy clayey gravel, grey to grey/orange and red/orange from 1.4m, moist, moderate plasticity, slight hydrocarbon odours			
0.80			BH5-1		1
1.20			BH5-2		0
1.60		***SANDSTONE*** Extremely weathered, light grey to grey/ orange, no odours			
1.80			BH5-3		0
2.00		TC bit refusal @ 2.7m BGL			
2.20			BH5-4		0
2.80		Borehole ended at 2.7m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical

PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH6

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Sandy gravel, grey/ yellow, moist, no odour	BH6-1		0
0.40		***SAND*** Occasional ironstone gravel, red/ orange to yellow/ grey, moist, no odour			
0.60					
0.80			BH6-2		0
1.00		***SANDSTONE*** Brown to light brow highly weathered sandstone, moist, no odours. TC bit refusal @ 1.1m BGL			
		Borehole ended at 1.1m			
1.20					

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

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Borehole: BH7

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Clay/gravel, orange/red - brown - grey, slightly moist, moderate plasticity, ironstone gravels, slight H/C odour			
0.40			BH7-1		1
		Sandy CLAY Orange - orange/grey, moist, moderate plasticity, no odour			
0.60			BH7-2		0
0.80		***SANDSTONE*** Extremely weathered, orange - orange/red/grey, medium grained, no odour			
		TC bit refusal @0.9m BGL			
		Borehole ended at 0.9m			
1.00					

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

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Borehole: BH8

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Clay/gravel, orange/red - brown - grey, slightly moist, moderate plasticity, ironstone gravels, slight H/C odour			
0.40			BH8-1		1
		Sandy CLAY Orange - orange/grey, moist, moderate plasticity, no odour			
0.60			BH8-2		0
0.80		***SANDSTONE*** Extremely weathered, orange - orange/ red/ grey, medium grained, no odour			
		TC bit refusal @0.9m BGL			
		Borehole ended at 0.9m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
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2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

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Borehole: BH9

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Gravelly sand, brick/ metal/ timber fragments throughout, medium grey to grey/ brown, moist moderate to high plasticity, slight hydrocarbon odours			
0.40			BH9-1		1
0.60		***Silty CLAY with sand*** mottled grey to orange/ brown, moist moderate to high plasticity,			
0.80			BH9-2		0
1.00		***Sandstone*** grey/ orange to grey/ brown, fine to medium grained, no odour			
			BH9-3		0
1.20		TC bit refusal @ 1.25m BGL			
		Borehole ended at 1.25m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
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3 = Strong visual signs of contamination and/or odour

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Borehole: BH10

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Sandy gravel, dark brown to grey, moist, fine to coarse grained, slight hydrocarbon odour	BH10-1		1
0.40					
		Silty CLAY Brown, moist, low to moderate plasticity, no odour			
0.60					
0.80			BH10-2		0
		CLAY Brown, moderate plasticity, becoming sandy with depth, peaty organic odour			
1.00					
1.20		Borehole ended at 1.2m			

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0 = No visual signs of contamination and/or detectable odours
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3 = Strong visual signs of contamination and/or odour

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Borehole: BH11

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Gravelly clay, light brown, moist, low plasticity, peaty organic odour			
0.40			BH11-1		0
0.60		***Silty CLAY*** Brown, moist, low plasticity, no odour			
0.80					
			BH11-2		0
1.00					
1.20		Borehole ended at 1.2m			

FCR = FIELD CONTAMINATION RANKING

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3 = Strong visual signs of contamination and/or odour

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Borehole: BH12

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
0.20		***Fill*** Sandy gravel, brown/ grey to red/ orange, moist, crushed brick/ tile (ceramic)/ gravel, slight hydrocarbon odour			
0.40			BH12-1		1
0.60		***Sandy Clay*** Sandy clay with minor ironstone gravels, grey to grey/ orange, slightly moist to moist, moderate plasticity, no odour			
0.80					
1.00			BH12-2		0
1.20		***Sandy Clay*** Sandy clay with ironstone gravels, grey to grey/ orange, moist to wet, moderate plasticity, no odour			
1.40					
1.60					
1.80					
2.00					
2.20					
2.40			BH12-3		0
2.60		***SANDSTONE*** Yellow/ orange to grey, weathered sandstone, moist, no odours TC bit refusal @2.65m BGL			
2.80		Borehole ended at 2.65m			
3.00					

FCR = FIELD CONTAMINATION RANKING

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3 = Strong visual signs of contamination and/or odour

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Borehole: BH13

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
		Fill Sandy gravel, grey/ yellow with some terracota tile fragments and crushed sandstone, moist, no odour			
0.20					
			BH13-1		0
0.40					
0.60		***SANDSTONE*** Red/ grey to orange/grey, weathered sandstone, moist, no odours TC bit refusal @0.8m BGL	BH13-2		0
0.80		Borehole ended at 0.8m			

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3 = Strong visual signs of contamination and/or odour

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Borehole: BH14

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***SANDSTONE*** Extremely weathered, light brown, fine to coarse grained, no odour	BH14-1		0
		TC bit refusal @0.5m BGL			
0.40			BH14-2		0
		Borehole ended at 0.5m			

FCR = FIELD CONTAMINATION RANKING

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Borehole: BH15

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20					
		Fill Gravelly sand, brown, dry, fine to medium grained, no odour			
0.40					
			BH15-1		0
0.60					
		Silty CLAY Brown, moist, low to moderate plasticity, no odour			
0.80					
1.00					
			BH15-2		0
1.20		Borehole ended at 1.2m			

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Borehole: BH16

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Fill Gravel/ silt/ sand/ glass/ rootlets, grey/ brown to grey, moist, no odours			
0.20					
0.40			BH16-1		0
		Silty CLAY Orange/ yellow to brown/ grey, moist, moderate plasticity, no odours			
0.60					
0.80					
1.00					
1.20			BH16-2		0
		Borehole ended at 1.3m			
1.40					

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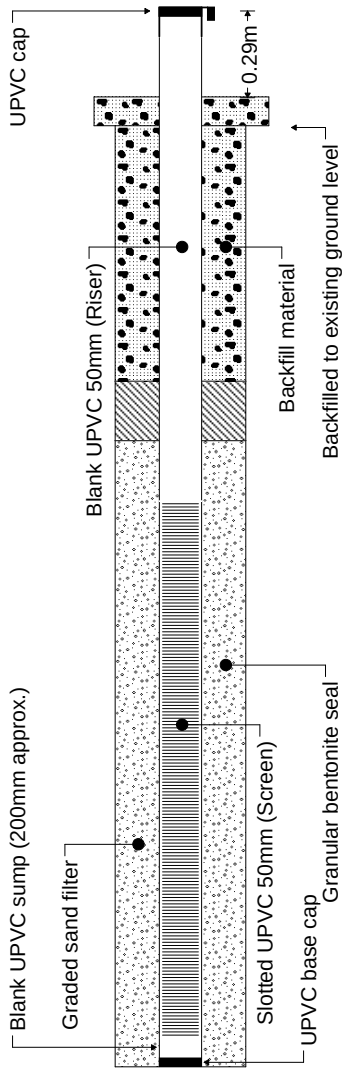
Monitoring Bore: BH17/GW2

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Bore License No.:
Hole size: 100mm
Engineer: D.H.
Checked by: E.G

SUBSURFACE PROFILE

SWL (m)	Depth (m)	Symbol	Description	Bore construction details	Sample ID	FCR	PID Readings (ppm)
1.59m (16-09-09)	0.00		Ground Surface				
	0.00–0.40		***Fill*** Gravel/ silt/ sand/ glass/ rootlets, grey/ brown - grey , moist, no odours		BH17-1	0	
	0.40–1.00		***Silty CLAY*** Orange/ yellow to brown/ grey mottled, moist, moderate plasticity, no odours				
	1.00		Rounded sandstone gravels from 0.9m		BH17-2	0	
	1.00–2.80		***EW sandstone with clay banding*** light grey to grey				
	2.00–2.40		Wet from 2.3m		MW2	0	
	2.80–3.00		Clay band from 2.8m to 3.1m				
	3.20		***Sanstone*** Light grey to brown weathered sandstone, moist, no odours				
	3.40		TC bit refusal @3.25m BGL				
	3.60		Borehole ended at 3.25m				



FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

COMMENTS:

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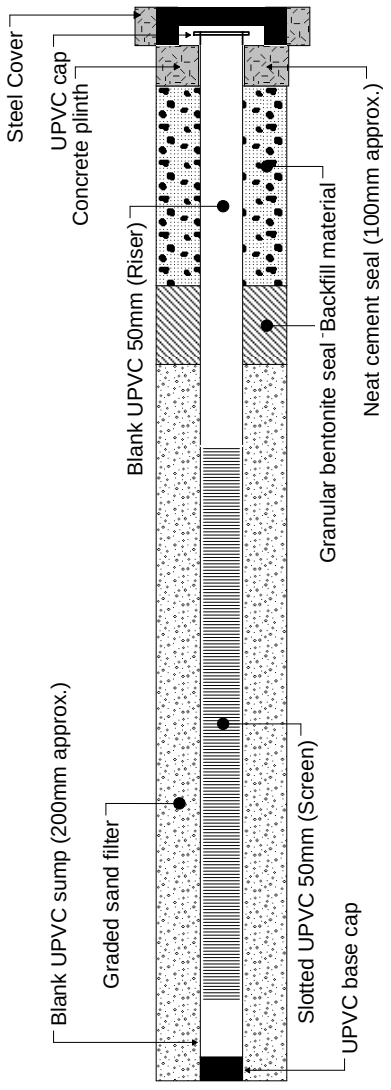
Monitoring Bore: BH18/GW1

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21-08-09

Sheet: 1 of 1
Bore License No.:
Hole size: 100mm
Engineer: D.H.
Checked by: E.G

SUBSURFACE PROFILE

SWL (m)	Depth (m)	Symbol	Description
1.46m (16-09-09)	0.00		Ground Surface
			Asphalt
	0.20		***Fill*** Sandy gravel, grey/ light grey, moist, no odour
	0.40		***Sandy Clay*** Sandy clay with gravels, grey to grey/ orange, slightly moist to moist, moderate plasticity, no odour
	0.60		
	0.80		
	1.00		
	1.20		***Sandy Clay*** Sandy clay with gravels, grey to grey/ orange, moist to wet from 1.2m, moderate plasticity, no odour
	1.40		
	1.60		
	1.80		
	2.00		
	2.20		
	2.40		***Peaty Silty Sand*** Peaty material from 2.3m, peaty oragnic odour
	2.60		***Sandstone*** Light grey to brown weathered sandstone, moist, no odours
	2.80		TC bit refusal @2.7m BGL
	3.00		Borehole ended at 2.7m



Sample ID	FCR	PID Readings (ppm)
BH18-1	0	
BH18-2	0	
MW1	0	

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COMMENTS:

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Borehole: BH19

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Gravelly sand, dark brown, no odour			
0.40			BH19-1		0
0.60		***SANDSTONE*** Extremely weathered, light brown, fine to coarse grained, no odour			
		TC bit refusal @ 0.8m BGL	BH19-2		0
0.80		Borehole ended at 0.8m			

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3 = Strong visual signs of contamination and/or odour

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Borehole: BH20

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Dingo - Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20		***Fill*** Gravelly sand, dark brown, fine to coarse grained, no odour	BH20-1		0
0.40		***SANDSTONE*** Extremely weathered, light brown, fine to coarse grained, no odour TC bit refusal @ 0.55m BGL	BH20-2		0
		Borehole ended at 0.55m			
0.60					

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Borehole: BH21

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
		Fill Sandy gravel, brown/ grey to light grey/ yellow, dry to moist, no odour			
0.20					
0.40			BH21-1		0
		Fill Granite/marble gravels to coarse boulders			
0.60			BH21-2		0
		Refused on fill in 2 locations			
		Borehole ended at 0.7m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
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3 = Strong visual signs of contamination and/or odour

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Borehole: BH22

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
		Fill Sandy gravel, brown/ orange to orange/ grey, moist, no odour			
0.20					
0.40			BH22-1		0
0.60		***Fill*** Granite/marble gravels to coarse boulders	BH22-2		0
		Refused on fill in 2 locations			
		Borehole ended at 0.7m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
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2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

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Borehole: BH23

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Demian Constructions P/L
Drill Method: Hollow Flight Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Asphalt			
		Fill Sandy gravel, dark grey to grey/ brown, dry to moist, no odour			
0.20		***Fill*** Granite/marble gravels to coarse boulders			
0.40					
0.60					
0.80			BH23-1		0
		Fill Gravelly silty sand, grey to brown/ grey, moist, no odour			
1.00					
		Silty CLAY Mottled orange/ red to grey/ brown, moist, medium plasticity, no odour			
1.20					
1.40			BH23-2		0
1.60					
1.80					
2.00					
		SANDSTONE Light orange/ grey to red/ grey			
2.20			BH23-3		0
2.40		Borehole ended at 2.35m			

FCR = FIELD CONTAMINATION RANKING

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3 = Strong visual signs of contamination and/or odour

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Borehole: BH24

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Concrete			
0.20					
		Fill Sandy gravel, grey - dark grey, moist, peaty smell			
0.40			BH24-1		1
		Silty CLAY Mottled orange/ red to grey/ brown, moist, medium plasticity, no odour			
0.60					
0.80					
1.00					
1.20			BH24-2		0
1.40		Borehole ended at 1.4m			

FCR = FIELD CONTAMINATION RANKING

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1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

Environmental Investigations
Contamination Assessment Management & Geotechnical

PO Box 215
ST PETERS NSW 2044
Ph: (02) 9516-0722 Fax: (02) 9516-0741

Borehole: BH25

Project No: E1074.1
Site Address: 78-90 Old Canterbury Rd, Lewisham
Client: Lewisham Estate P/L
Drill Method: Truck Mounted DT100TMP - Hollow Stem Auger
Drill date: 21/08/09

Sheet: 1 of 1
Hole size: 100mm
Engineer: D.H.
Checked by: E.G.

SUBSURFACE PROFILE

Depth (m)	Symbol	Description	Sample ID	PID Concentration (ppm)	FCR
0.00		Ground Surface			
		Fill Gravelly sand with boulders, grey to light grey, dry to moist, no odour			
0.20			BH25-1		0
		Fill Granite/marble gravels to coarse boulders			
0.40		Refused on fill in 4 locations	BH25-2		0
		Borehole ended at 0.5m			

FCR = FIELD CONTAMINATION RANKING

0 = No visual signs of contamination and/or detectable odours
1 = Slight visual signs of contamination and/or odours
2 = Obvious visual signs of contamination and/or odour
3 = Strong visual signs of contamination and/or odour

APPENDIX F

Chain of Custody Certificates
&
Sample Receipt Advice

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Investigations
17/1A Coulson St
Erskineville NSW 2043

ph: 9516 0722
Fax: 9516 0741

Attention: Damien Hart

Sample log in details:

Your reference:	**E1074.1, Lewisham**
Envirolab Reference:	**32476**
Date received:	24/08/09
Date results expected to be reported:	**31/08/09**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	55 Soils, 1 Water
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice Pack

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Investigations
17/1A Coulson St
Erskineville NSW 2043

ph: 9516 0722
Fax: 9516 0741

Attention: Vagner Jorden

Sample log in details:

Your reference:	**E1074.1, Lewisham**
Envirolab Reference:	**33303**
Date received:	16/09/09
Date results expected to be reported:	**23/09/09**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	3 Waters
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice Pack

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

Sheet 1 of 0

Site: 78-90 OLD CANTERBURY RD. LEWISHAM	Project ID: E1074.1

Laboratory: Envirolab Services
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Environmental Investigations
Contamination Assessment Management & Geotechnical

17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals A	Heavy Metals B	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH	TPH₉/BTEX/LEAD/	PAHs/TOTAL PHENOLS
BH1-1	1	J	21/8/09			✓	C2		✓		✓	✓										
BH1-2	2					✓																
BH1-3	3					✓																
BH2-1 (Grey sand)	4		21/8/09			✓	C3		✓		✓	✓										
BH2-2	5					✓																
BH3-1	6					✓	C5		✓		✓	✓										
BH3-2	7					✓																
BH4-1	8					✓	C8		✓		✓	✓										
BH4-2	9					✓																
BH5-1	10		21/8/09			✓			✓		✓	✓	✓									
BH5-2	11					✓															✓	
BH5-3	12					✓															✓	✓
BH5-4	13					✓																

Comments:
A Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
B Antimony, Barium, Beryllium, Cobalt, Manganese, Tin, Vanadium

Envirolab Services, 12 Ashley St, Chatswood NSW 2067, Ph: 9910 6200
Job No: 32476.
Date received: 24/8/09.
Time received: 2:00.
Received by: JHie.
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Laboratory Turnaround:
- [ ] Same Day
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [x] Standard
- [ ] Other ______

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIEN HANT (Print) Signature Date: 24/8/09

Sampler's Comments:

Received by: (print & Signature) JHie Date: 24/8/09 Time: 2:00

IMPORTANT:
PLEASE E-MAIL LABORATORY RESULTS TO:
service@eiaustralia.com.au

Container Type:
J= solvent washed, acid rinsed, Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

Sheet 2 of 5

Site: 78-90 OLD CANTERBURY RD. LEWISHAM

Project ID: E1074.1

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals [A]	Heavy Metals [B]	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH	TPH/BTEX/LEAD	PAH / PHENOLS (TOTAL)
BH6-1	14	S	21/8/09			✓	C3		✓		✓	✓										
BH6-2	15	↓	↓			✓																
BH7-1	16		21/8/09			✓	C5		✓		✓	✓										
BH7-2	17		↓			✓																
BH8-1	18		↓			✓	C8		✓		✓	✓										
BH8-2	19		↓			✓															✓	
BH9-1	20		21/8/09			✓	C3		✓		✓	✓										
BH9-2	21		↓			✓															✓	
BH9-3	22		↓			✓																
BH10-1	23		21/8/09			✓	C5		✓		✓	✓										
BH10-2	24		↓			✓																
BH11-1	25		↓			✓	C8		✓		✓	✓										
BH11-2	26	↓	↓			✓																

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIEN HART (Print) (Signature) Date: 24/8/09

Sampler's Comments:

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

Received by: (print & Signature) JHie Date: 24/8/09 Time: 2:00

IMPORTANT:
PLEASE E-MAIL LABORATORY RESULTS TO:
service@eiaustralia.com.au

Environmental Investigations
Contamination Assessment Management & Geotechnical
17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Comments:
[A] Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
[B] Antimony, Barium, Beryllium, Cobalt, Manganese, Tin, Vanadium

Laboratory Turnaround:
- ☐ Same Day ☐ 24 Hours
- ☐ 48 Hours ☐ 72 Hours
- ☑ Standard
- ☐ Other _____

Sheet 1 of 6

Site: 78-90 OLD CANTERBURY RD. LEWISHAM

Project ID: E1074.1

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Environmental Investigations
Contamination Assessment Management & Geotechnical
17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	Sample Matrix: WATER	SOIL	COMPOSITE	OTHER	Heavy Metals [A]	Heavy Metals [B]	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH		
BH12-1	27	J	21/8/09			✓	C2		✓		✓	✓										
BH12-2	28	↓	↓			✓																
BH12-3	29					✓																
BH13-1	30					✓	C2		✓		✓	✓										
BH13-2	31		↓			✓																
BH14-1	32		21/8/09			✓	C4		✓		✓	✓										
BH14-2	33					✓																
BH15-1	34					✓	C6		✓		✓	✓										
BH15-2	35		↓			✓																
BH16-1	36		24/8/09			✓	C1		✓		✓	✓										
BH16-2	37					✓																
BH17-1	38	↓				✓	C1		✓		✓	✓										
BH17-2	39		↓			✓																

Comments:

[A] Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc

[B] Antimony, Barium, Beryllium, Cobalt, Manganese, Tin, Vanadium

Laboratory Turnaround:

- ☐ Same Day ☐ 24 Hours
- ☐ 48 Hours ☐ 72 Hours
- ☑ Standard
- ☐ Other _____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIEN HAAS (Print) _____ (Signature) Date: 24/8/09

Sampler's Comments:

Received by: (print & Signature) JHile _____ Date: 24/8/09 Time: 2:00

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

IMPORTANT:
PLEASE E-MAIL LABORATORY RESULTS TO:
service@eiaustralia.com.au

Sheet 4 of 6

Site: 78-90 OLD CANTERBURY RD LEWISHAM

Project ID: E1074.1

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals [A]	Heavy Metals [B]	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH	TPH/BTEX/Lead
BH18	40	J	21/8/09			✓	C4		✓		✓	✓									
BH18-2	41	↓	↓			✓															
BH19-1	42		21/8/09			✓	C4		✓		✓	✓									
BH19-2	43		↓			✓															
BH20-1	44		21/8/09			✓	C6		✓		✓	✓									
BH21-1	45					✓	C4		✓		✓	✓									
BH21-2	46					✓															
BH22-1	47					✓	C6		✓		✓	✓									
BH22-2	48					✓															
BH23-1	49					✓	C7		✓		✓	✓									
BH23-2	50					✓														✓	
BH24-1	51					✓	C7		✓		✓	✓									
BH24-2	52	↓	↓			✓															

Sample Matrix | Analysis

Environmental Investigations
Contamination Assessment Management & Geotechnical
17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Comments:

[A] Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc

[B] Antimony, Barium, Beryllium, Cobalt, Manganese, Tin, Vanadium

Laboratory Turnaround:

- ☐ Same Day ☐ 24 Hours
- ☐ 48 Hours ☐ 72 Hours
- ☑ Standard
- ☐ Other _____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIEN HAM (Print) _____ (Signature) Date: 24/8/09

Sampler's Comments:

Received by: (print & Signature) JHie _____ Date: 24/8/09 Time: 2:00

IMPORTANT:

PLEASE E-MAIL LABORATORY RESULTS TO:

service@eiaustralia.com.au

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

Sheet 3 of 6

Site: 78-90 OLD CANTERBURY RD. LEWISHAM

Project ID:

Environmental Investigations
Contamination Assessment Management & Geotechnical

17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals A	Heavy Metals B	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH	TPH / BTEX / LEAD	
25-1	53	J	21/8/09			✓	C7		✓		✓	✓										
25-2	54	↓	↓			✓																
C1	55						✓						✓									
C2	56						✓						✓									
C3	57						✓						✓									
C4	58						✓						✓									
C5	59						✓						✓									
C6	60						✓						✓									
C7	61						✓						✓									
C8	62						✓						✓									
BH23-3	63	J				✓															✓	
RB1	64	1xS, 1xP			✓				✓					✓								

Comments:

A	B
Arsenic	Antimony
Cadmium	Barium
Chromium	Beryllium
Copper	Cobalt
Lead	Manganese
Mercury	Tin
Nickel	Vanadium
Zinc	

Laboratory Turnaround:

- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ 72 Hours
- ☑ Standard
- ☐ Other ____________

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIEN HART (Print) [signature] (Signature) Date: 24/8/09

Sampler's Comments:

Received by: (print & Signature) JHie [signature] Date: 24/8/09 Time: 2:00

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

IMPORTANT:

PLEASE E-MAIL LABORATORY RESULTS TO:

service@eiaustralia.com.au

Sheet 6 of 6

Site: 78-90 OLD CANTERBURY RD. LEWISHAM

Project ID: E1074.1

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals [A]	Heavy Metals [B]	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH		
01	65	J	24/8/09			✓			✓		✓	✓		✓								
02	66	↓	↓			✓			✓		✓	✓		✓								

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: DAMIAN HART (Print) _____ (Signature) Date: 24/8/09

Sampler's Comments:

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar; S= solvent washed, acid rinsed glass bottle;
P= natural HDPE plastic bottle; VC= glass vial, Teflon Septum; ZLB = Zip-Lock Bag

Received by: (print & Signature) JHie _____ Date: 24/8/09 Time: 2:00

IMPORTANT:
PLEASE E-MAIL LABORATORY RESULTS TO:
service@eiaustralia.com.au

Environmental Investigations
Contamination Assessment Management & Geotechnical
17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Comments:
[A] Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
[B] Antimony, Barium, Beryllium, Cobalt, Manganese, Tin, Vanadium

Laboratory Turnaround:
- ☐ Same Day ☐ 24 Hours
- ☐ 48 Hours ☐ 72 Hours
- ☑ Standard
- ☐ Other _____

Sheet 1 of 1

Site: 78-90 OLD CANTERBURY ROAD, LEWISHAM, NSW.

Project ID: E1074.1

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200 F: 02 9910 6201

Sample ID	Laboratory ID	Container Type	Sampling Date:	Sampling Time:	WATER	SOIL	COMPOSITE	OTHER	Heavy Metals *	TPH / BTEX	PAHs	OCPs / PCBs / OPPs	TPH (C_{10} - C_{36}) only	Asbestos	VOCs	sPOCAs	pH (1:5)	EC (1:5)	Peroxid PH			
MW1	1	1XP;1X5;2XVc	16-09-09	07:00	✓				✓	✓	✓											
MW2	2	↓	↓	10:15	✓				✓	✓	✓											
R1	3	1XP;1X5;2XVc	16-09-09	–	✓				✓	✓	✓											

Sample Matrix | Analysis

Environmental Investigations
Contamination Assessment Management & Geotechnical
17/1A Coulson Street,
ERSKINEVILLE NSW 2043
PO Box 215
ST PETERS NSW 2044
Ph: 9516 0722
Fx: 9516 0741
service@eiaustralia.com.au

Comments:
* Arsenic Lead
Cadmiun Mercury
Chromiun Nickel
Copper Zinc

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: 9910 6200

Job No: 33303
Date received: 16/9/09
Time received: 5:30
Received by: SC
Temp: ~~Cool/Ambient~~
Cooling: ~~Ice/Icepack~~
Security: ~~Intact/Broken/None~~

Laboratory Turnaround:
☐ Same Day ☐ 24 Hours
☐ 48 Hours ☐ 72 Hours
☐ Standard
☐ Other _____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler Name: V. JORDEN (Print) _____ (Signature) Date: 16-09-09

Sampler's Comments:

Received by: (print & Signature) Simon Date: 16/9/9 Time: 5:30

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jar, S= solvent washed, acid rinsed glass bottle,
P= natural HDPE plastic bottle, VC= glass vial, Teflon Septum.

IMPORTANT:
PLEASE E-MAIL LABORATORY RESULTS TO:
service@eiaustralia.com.au

APPENDIX G

Laboratory Analytical Report

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 32476

Client:
Environmental Investigations
17/1A Coulson St
Erskineville
NSW 2043

Attention: Damien Hart

Sample log in details:

Your Reference:	**E1074.1, Lewisham**
No. of samples:	55 Soils, 1 Water
Date samples received:	24/08/09
Date completed instructions received:	24/08/09

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	31/08/09
Date of Preliminary Report:	Not issued
Issue Date:	31/08/09

NATA accreditation number 2901. This document shall not be reproduced except in full.
This document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-1	32476-4	32476-6	32476-8	32476-10
Your Reference	----------	BH1-1	BH2-1	BH3-1	BH4-1	BH5-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	96	98	99	100	103

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-11	32476-12	32476-14	32476-16	32476-18
Your Reference	----------	BH5-2	BH5-3	BH6-1	BH7-1	BH8-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	105	100	98	102	90

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-19	32476-20	32476-21	32476-23	32476-25
Your Reference	----------	BH8-2	BH9-1	BH9-2	BH10-1	BH11-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	97	96	95	97	100

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-27	32476-30	32476-32	32476-34	32476-36
Your Reference	----------	BH12-1	BH13-1	BH14-1	BH15-1	BH16-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	92	98	93	92	102

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-38	32476-40	32476-42	32476-44	32476-45
Your Reference	----------	BH17-1	BH18-1	BH19-1	BH20-1	BH21-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	98	96	94	100	107

vTPH & BTEX in Soil						
Our Reference:	UNITS	32476-47	32476-49	32476-50	32476-51	32476-53
Your Reference	----------	BH22-1	BH23-1	BH23-2	BH24-1	BH25-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	100	104	99	98	105

vTPH & BTEX in Soil				
Our Reference:	UNITS	32476-63	32476-65	32476-66
Your Reference	----------	BH23-3	D1	D2
Composite Reference	----------	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	98	102	98

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-1	32476-4	32476-6	32476-8	32476-10
Your Reference	----------	BH1-1	BH2-1	BH3-1	BH4-1	BH5-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	160	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	88	87	91	90	91

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-11	32476-12	32476-14	32476-16	32476-18
Your Reference	----------	BH5-2	BH5-3	BH6-1	BH7-1	BH8-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	91	90	86	91	93

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-19	32476-20	32476-21	32476-23	32476-25
Your Reference	----------	BH8-2	BH9-1	BH9-2	BH10-1	BH11-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	810	<100	110	<100
TPH C_{29} - C_{36}	mg/kg	<100	870	<100	100	100
Surrogate o-Terphenyl	%	90	#	91	91	91

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-27	32476-30	32476-32	32476-34	32476-36
Your Reference	----------	BH12-1	BH13-1	BH14-1	BH15-1	BH16-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	210	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	100	<100
Surrogate o-Terphenyl	%	107	97	88	102	90

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-38	32476-40	32476-42	32476-44	32476-45
Your Reference	----------	BH17-1	BH18-1	BH19-1	BH20-1	BH21-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	270	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	140	<100	<100	<100
Surrogate o-Terphenyl	%	89	107	90	88	80

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	32476-47	32476-49	32476-50	32476-51	32476-53
Your Reference	----------	BH22-1	BH23-1	BH23-2	BH24-1	BH25-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	500	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	410	<100	<100	<100
Surrogate o-Terphenyl	%	80	102	75	76	69

sTPH in Soil (C10-C36)				
Our Reference:	UNITS	32476-63	32476-65	32476-66
Your Reference	----------	BH23-3	D1	D2
Composite Reference	----------	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	70	84	77

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-1 BH1-1 - 21/08/2009 Soil	32476-4 BH2-1 - 21/08/2009 Soil	32476-6 BH3-1 - 21/08/2009 Soil	32476-8 BH4-1 - 21/08/2009 Soil	32476-10 BH5-1 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.8	9.3	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.2	2.4	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	1.7	17	<0.1	<0.1	<0.1
Pyrene	mg/kg	1.7	14	<0.1	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.8	7.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.9	6.3	<0.1	0.1	0.1
Benzo(b+k)fluoranthene	mg/kg	1.5	8.9	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	1	5.8	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.7	4.0	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	0.5	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.6	2.9	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	98	96	102	101	104

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-12 BH5-3 - 21/08/2009 Soil	32476-14 BH6-1 - 21/08/2009 Soil	32476-16 BH7-1 - 21/08/2009 Soil	32476-18 BH8-1 - 21/08/2009 Soil	32476-20 BH9-1 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.4
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	0.2	2.2
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.9
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	2.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	0.9	15
Anthracene	mg/kg	<0.1	<0.1	<0.1	0.2	4.4
Fluoranthene	mg/kg	<0.1	<0.1	0.2	2.6	31
Pyrene	mg/kg	<0.1	<0.1	0.3	2.8	31
Benzo(a)anthracene	mg/kg	<0.1	<0.1	0.2	1.5	13
Chrysene	mg/kg	<0.1	<0.1	0.3	1.7	12
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	0.4	3.2	23
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.2	2.3	18
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	0.2	1.3	9.4
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	0.3	1.8
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	0.2	1.2	8.4
Surrogate p-Terphenyl-d_{14}	%	100	99	99	101	100

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-23 BH10-1 - 21/08/2009 Soil	32476-25 BH11-1 - 21/08/2009 Soil	32476-27 BH12-1 - 21/08/2009 Soil	32476-30 BH13-1 - 21/08/2009 Soil	32476-32 BH14-1 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.4	0.2	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	1.7	1	0.1	0.4	<0.1
Anthracene	mg/kg	0.4	0.3	<0.1	0.1	<0.1
Fluoranthene	mg/kg	3.6	2.3	0.3	1.1	<0.1
Pyrene	mg/kg	3.5	2.7	0.3	1.2	<0.1
Benzo(a)anthracene	mg/kg	2.0	1.8	0.2	0.7	<0.1
Chrysene	mg/kg	1.9	1.8	0.2	0.7	<0.1
Benzo(b+k)fluoranthene	mg/kg	3.5	4.1	0.4	1.3	<0.2
Benzo(a)pyrene	mg/kg	2.5	3.0	0.3	0.9	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	1.3	1.6	0.1	0.5	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.3	0.3	<0.1	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	1.1	1.4	0.1	0.4	<0.1
Surrogate p-Terphenyl-d_{14}	%	102	102	101	101	99

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-34 BH15-1 - 21/08/2009 Soil	32476-36 BH16-1 - 21/08/2009 Soil	32476-38 BH17-1 - 21/08/2009 Soil	32476-40 BH18-1 - 21/08/2009 Soil	32476-42 BH19-1 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	0.1	<0.1	<0.1	0.2	<0.1
Acenaphthylene	mg/kg	1.5	<0.1	<0.1	0.2	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	0.7	<0.1
Fluorene	mg/kg	0.2	<0.1	<0.1	0.5	<0.1
Phenanthrene	mg/kg	6.7	0.1	0.5	9.6	<0.1
Anthracene	mg/kg	1.9	<0.1	0.1	2.7	<0.1
Fluoranthene	mg/kg	9.0	0.3	1	15	<0.1
Pyrene	mg/kg	11	0.3	0.9	15	<0.1
Benzo(a)anthracene	mg/kg	6.1	0.2	0.5	7.5	<0.1
Chrysene	mg/kg	5.7	0.2	0.5	6.9	<0.1
Benzo(b+k)fluoranthene	mg/kg	9.7	0.4	0.9	11	<0.2
Benzo(a)pyrene	mg/kg	7.2	0.3	0.6	8.1	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	3.4	0.1	0.3	3.6	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.8	<0.1	<0.1	0.8	<0.1
Benzo(g,h,i)perylene	mg/kg	2.9	0.1	0.3	3.2	<0.1
Surrogate p-Terphenyl-d_{14}	%	102	97	99	104	94

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-44 BH20-1 - 21/08/2009 Soil	32476-45 BH21-1 - 21/08/2009 Soil	32476-47 BH22-1 - 21/08/2009 Soil	32476-49 BH23-1 - 21/08/2009 Soil	32476-51 BH24-1 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1	0.5	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	2.6	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	10	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	3.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	<0.1	25	<0.1
Pyrene	mg/kg	<0.1	0.1	<0.1	28	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	15	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	15	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	28	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.06	<0.05	21	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	11	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	2.4	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	11	<0.1
Surrogate p-Terphenyl-d_{14}	%	93	98	97	99	93

PAHs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-53 BH25-1 - 21/08/2009 Soil	32476-65 D1 - 21/08/2009 Soil	32476-66 D2 - 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.08	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	97	98	92

Organochlorine Pesticides in soil						
Our Reference:	UNITS	32476-10	32476-55	32476-56	32476-57	32476-58
Your Reference	----------	BH5-1	C1	C2	C3	C4
Composite Reference	----------	-	36+38+40	1+27+30	4+14+20	32+42+45
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	90	86	84	88

Organochlorine Pesticides in soil					
Our Reference:	UNITS	32476-59	32476-60	32476-61	32476-62
Your Reference	----------	C5	C6	C7	C8
Composite Reference	----------	6+16+23	34+44+47	49+41+53	8+18+25
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	88	90	87	86

Organophosphorus Pesticides						
Our Reference:	UNITS	32476-10	32476-55	32476-56	32476-57	32476-58
Your Reference	----------	BH5-1	C1	C2	C3	C4
Composite Reference	----------	-	36+38+40	1+27+30	4+14+20	32+42+45
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	90	86	84	88

Organophosphorus Pesticides					
Our Reference:	UNITS	32476-59	32476-60	32476-61	32476-62
Your Reference	----------	C5	C6	C7	C8
Composite Reference	----------	6+16+23	34+44+47	49+41+53	8+18+25
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	88	90	87	86

PCBs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-10 BH5-1 - 21/08/2009 Soil	32476-55 C1 36+38+40 21/08/2009 Soil	32476-56 C2 1+27+30 21/08/2009 Soil	32476-57 C3 4+14+20 21/08/2009 Soil	32476-58 C4 32+42+45 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Arochlor 1016	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	90	86	84	88

PCBs in Soil Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-59 C5 6+16+23 21/08/2009 Soil	32476-60 C6 34+44+47 21/08/2009 Soil	32476-61 C7 49+41+53 21/08/2009 Soil	32476-62 C8 8+18+25 21/08/2009 Soil
Date extracted	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	88	90	87	86

Total Phenolics in Soil		
Our Reference:	UNITS	32476-12
Your Reference	----------	BH5-3
Composite Reference	----------	-
Date Sampled		21/08/2009
Type of sample		Soil
Date extracted	-	25/08/2009
Date analysed	-	27/08/2009
Total Phenolics (as Phenol)	mg/kg	<5.0

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-1	32476-4	32476-6	32476-8	32476-10
Your Reference	----------	BH1-1	BH2-1	BH3-1	BH4-1	BH5-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	21	3	3	15	13
Copper	mg/kg	21	26	3	2	3
Lead	mg/kg	150	33	6	14	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	16	3	<1	2	3
Zinc	mg/kg	64	79	7	13	10

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-11	32476-12	32476-14	32476-16	32476-18
Your Reference	----------	BH5-2	BH5-3	BH6-1	BH7-1	BH8-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	[NA]	[NA]	9	7	7
Cadmium	mg/kg	[NA]	[NA]	0.6	<0.5	0.7
Chromium	mg/kg	[NA]	[NA]	33	23	12
Copper	mg/kg	[NA]	[NA]	1	12	75
Lead	mg/kg	14	16	17	25	420
Mercury	mg/kg	[NA]	[NA]	<0.1	<0.1	0.4
Nickel	mg/kg	[NA]	[NA]	3	4	13
Zinc	mg/kg	[NA]	[NA]	10	43	410

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-19	32476-20	32476-21	32476-23	32476-25
Your Reference	----------	BH8-2	BH9-1	BH9-2	BH10-1	BH11-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	[NA]	12	[NA]	8	<4
Cadmium	mg/kg	[NA]	0.5	[NA]	0.9	1.3
Chromium	mg/kg	[NA]	13	[NA]	22	7
Copper	mg/kg	[NA]	55	[NA]	21	59
Lead	mg/kg	10	67	13	190	41
Mercury	mg/kg	[NA]	0.1	[NA]	0.3	<0.1
Nickel	mg/kg	[NA]	34	[NA]	5	7
Zinc	mg/kg	[NA]	110	[NA]	270	170

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-27	32476-30	32476-32	32476-34	32476-36
Your Reference	----------	BH12-1	BH13-1	BH14-1	BH15-1	BH16-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	5	<4	<4	<4	7
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Chromium	mg/kg	45	10	8	10	11
Copper	mg/kg	26	9	27	30	47
Lead	mg/kg	89	34	6	120	200
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	35	7	51	4	17
Zinc	mg/kg	93	37	28	120	510

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-38	32476-40	32476-42	32476-44	32476-45
Your Reference	----------	BH17-1	BH18-1	BH19-1	BH20-1	BH21-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	10	8	<4	<4	7
Cadmium	mg/kg	<0.5	0.5	0.5	<0.5	<0.5
Chromium	mg/kg	20	31	29	10	13
Copper	mg/kg	10	22	57	21	27
Lead	mg/kg	59	95	6	7	30
Mercury	mg/kg	3.6	1.3	<0.1	<0.1	<0.1
Nickel	mg/kg	3	16	86	29	16
Zinc	mg/kg	23	85	42	22	48

Acid Extractable metals in soil						
Our Reference:	UNITS	32476-47	32476-49	32476-50	32476-51	32476-53
Your Reference	----------	BH22-1	BH23-1	BH23-2	BH24-1	BH25-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	<4	4	[NA]	<4	5
Cadmium	mg/kg	<0.5	<0.5	[NA]	<0.5	0.7
Chromium	mg/kg	5	13	[NA]	4	27
Copper	mg/kg	8	43	[NA]	5	160
Lead	mg/kg	7	41	11	23	100
Mercury	mg/kg	<0.1	<0.1	[NA]	<0.1	<0.1
Nickel	mg/kg	6	6	[NA]	1	16
Zinc	mg/kg	14	52	[NA]	16	140

Acid Extractable metals in soil				
Our Reference:	UNITS	32476-63	32476-65	32476-66
Your Reference	----------	BH23-3	D1	D2
Composite Reference	----------	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil
Date digested	-	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009
Arsenic	mg/kg	[NA]	<4	<4
Cadmium	mg/kg	[NA]	<0.5	<0.5
Chromium	mg/kg	[NA]	16	8
Copper	mg/kg	[NA]	27	12
Lead	mg/kg	7	13	11
Mercury	mg/kg	[NA]	<0.1	<0.1
Nickel	mg/kg	[NA]	39	7
Zinc	mg/kg	[NA]	25	22

Moisture						
Our Reference:	UNITS	32476-1	32476-4	32476-6	32476-8	32476-10
Your Reference	----------	BH1-1	BH2-1	BH3-1	BH4-1	BH5-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	16	16	9.8	11	15

Moisture						
Our Reference:	UNITS	32476-11	32476-12	32476-14	32476-16	32476-18
Your Reference	----------	BH5-2	BH5-3	BH6-1	BH7-1	BH8-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	20	18	11	17	19

Moisture						
Our Reference:	UNITS	32476-19	32476-20	32476-21	32476-23	32476-25
Your Reference	----------	BH8-2	BH9-1	BH9-2	BH10-1	BH11-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	13	12	16	14	8.9

Moisture						
Our Reference:	UNITS	32476-27	32476-30	32476-32	32476-34	32476-36
Your Reference	----------	BH12-1	BH13-1	BH14-1	BH15-1	BH16-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	8.9	8.1	7.9	7.2	9.9

Moisture						
Our Reference:	UNITS	32476-38	32476-40	32476-42	32476-44	32476-45
Your Reference	----------	BH17-1	BH18-1	BH19-1	BH20-1	BH21-1
Composite Reference	----------	-	-	-	-	-
Date Sampled		21/08/2009	21/08/2009	21/08/2009	21/08/2009	21/08/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	12	17	8.9	7.3	8.6

Moisture Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-47 BH22-1 - 21/08/2009 Soil	32476-49 BH23-1 - 21/08/2009 Soil	32476-50 BH23-2 - 21/08/2009 Soil	32476-51 BH24-1 - 21/08/2009 Soil	32476-53 BH25-1 - 21/08/2009 Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	7.8	14	17	14	9.7

Moisture Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-55 C1 36+38+40 21/08/2009 Soil	32476-56 C2 1+27+30 21/08/2009 Soil	32476-57 C3 4+14+20 21/08/2009 Soil	32476-58 C4 32+42+45 21/08/2009 Soil	32476-59 C5 6+16+23 21/08/2009 Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	12	10	12	8.3	13

Moisture Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-60 C6 34+44+47 21/08/2009 Soil	32476-61 C7 49+41+53 21/08/2009 Soil	32476-62 C8 8+18+25 21/08/2009 Soil	32476-63 BH23-3 - 21/08/2009 Soil	32476-65 D1 - 21/08/2009 Soil
Date prepared	-	25/08/2009	25/08/2009	25/08/2009	25/08/2009	25/08/2009
Date analysed	-	26/08/2009	26/08/2009	26/08/2009	26/08/2009	26/08/2009
Moisture	%	7.5	12	13	11	6.5

Moisture Our Reference: Your Reference Composite Reference Date Sampled Type of sample	UNITS ---------- ----------	32476-66 D2 - 21/08/2009 Soil
Date prepared	-	25/08/2009
Date analysed	-	26/08/2009
Moisture	%	8.8

sTPH in Water (C10-C36)		
Our Reference:	UNITS	32476-64
Your Reference	----------	RB1
Composite Reference	----------	-
Date Sampled		21/08/2009
Type of sample		Soil
Date extracted	-	26/08/2009
Date analysed	-	26/08/2009
TPH C_{10} - C_{14}	µg/L	<50
TPH C_{15} - C_{28}	µg/L	<100
TPH C_{29} - C_{36}	µg/L	<100
Surrogate o-Terphenyl	%	88

Metals in Water - Dissolved		
Our Reference:	UNITS	32476-64
Your Reference	----------	RB1
Composite Reference	----------	-
Date Sampled		21/08/2009
Type of sample		Soil
Arsenic - Dissolved	mg/L	<0.050
Cadmium - Dissolved	mg/L	<0.010
Chromium - Dissolved	mg/L	<0.010
Copper - Dissolved	mg/L	<0.010
Lead - Dissolved	mg/L	<0.030
Mercury - Dissolved	mg/L	<0.00050
Nickel - Dissolved	mg/L	<0.020
Zinc - Dissolved	mg/L	<0.020

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC-5	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC.8	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
LAB.30	Total Phenolics - determined colorimetrically following disitillation.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	32476-1	25/08/2009 || 25/08/2009	LCS-4	25/08/2009
Date analysed	-			26/08/2009	32476-1	26/08/2009 || 26/08/2009	LCS-4	26/08/2009
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	32476-1	<25 || <25	LCS-4	101%
Benzene	mg/kg	0.5	GC.16	<0.5	32476-1	<0.5 || <0.5	LCS-4	101%
Toluene	mg/kg	0.5	GC.16	<0.5	32476-1	<0.5 || <0.5	LCS-4	110%
Ethylbenzene	mg/kg	1	GC.16	<1.0	32476-1	<1.0 || <1.0	LCS-4	108%
m+p-xylene	mg/kg	2	GC.16	<2.0	32476-1	<2.0 || <2.0	LCS-4	94%
o-Xylene	mg/kg	1	GC.16	<1.0	32476-1	<1.0 || <1.0	LCS-4	95%
Surrogate aaa-Trifluorotoluene	%		GC.16	106	32476-1	96 || 104 || RPD: 8	LCS-4	113%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	32476-1	25/08/2009 || 25/08/2009	LCS-4	25/08/2009
Date analysed	-			25/08/2009	32476-1	25/08/2009 || 25/08/2009	LCS-4	25/08/2009
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	32476-1	<50 || <50	LCS-4	93%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	32476-1	<100 || <100	LCS-4	101%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	32476-1	<100 || <100	LCS-4	99%
Surrogate o-Terphenyl	%		GC.3	119	32476-1	88 || 95 || RPD: 8	LCS-4	95%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	32476-1	25/08/2009 || 25/08/2009	LCS-4	25/08/2009
Date analysed	-			26/08/2009	32476-1	26/08/2009 || 26/08/2009	LCS-4	26/08/2009
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	<0.1 || 0.1	LCS-4	93%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.1 || 0.2 || RPD: 67	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	<0.1 || <0.1	LCS-4	91%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.8 || 0.8 || RPD: 0	LCS-4	92%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.2 || 0.2 || RPD: 0	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	1.7 || 3.4 || RPD: 67	LCS-4	89%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	1.7 || 4.0 || RPD: 81	LCS-4	94%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.8 || 2.2 || RPD: 93	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.9 || 2.3 || RPD: 88	LCS-4	96%
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	32476-1	1.5 || 3.6 || RPD: 82	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	32476-1	1 || 2.6 || RPD: 89	LCS-4	81%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.7 || 1.6 || RPD: 78	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	<0.1 || 0.2	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	32476-1	0.6 || 1.6 || RPD: 91	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	101	32476-1	98 || 92 || RPD: 6	LCS-4	96%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
Date analysed	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
HCB	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	102%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	105%
Heptachlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	95%
delta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	92%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	100%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	104%
Dieldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	104%
Endrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	100%
pp-DDD	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	109%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS-5	98%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-5	78	[NT]	[NT]	LCS-5	89%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
Date analysed	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
Diazinon	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Dimethoate	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos-methyl	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Ronnel	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS-5	100%
Fenitrothion	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS-5	132%
Bromophos-ethyl	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS-5	140%
Surrogate TCLMX	%		GC.8	78	[NT]	[NT]	LCS-5	91%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
Date analysed	-			25/08/2009	[NT]	[NT]	LCS-5	25/08/2009
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	LCS-5	89%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-6	78	[NT]	[NT]	LCS-5	114%

QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			25/8/09	[NT]	[NT]	LCS-1	25/8/09
Date analysed	-			27/8/09	[NT]	[NT]	LCS-1	27/8/09
Total Phenolics (as Phenol)	mg/kg	5	LAB.30	<5.0	[NT]	[NT]	LCS-1	94%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			25/8/09	32476-1	25/08/2009 || 25/08/2009	LCS-1	25/8/09
Date analysed	-			26/8/09	32476-1	26/08/2009 || 26/08/2009	LCS-1	26/8/09
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	32476-1	<4 || <4	LCS-1	103%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	32476-1	<0.5 || <0.5	LCS-1	102%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	32476-1	21 || 35 || RPD: 50	LCS-1	106%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	32476-1	21 || 19 || RPD: 10	LCS-1	103%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	32476-1	150 || 59 || RPD: 87	LCS-1	103%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	32476-1	<0.1 || <0.1	LCS-1	105%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	32476-1	16 || 25 || RPD: 44	LCS-1	105%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	32476-1	64 || 71 || RPD: 10	LCS-1	106%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			25/8/09
Date analysed	-			26/8/09
Moisture	%	0.1	LAB.8	<0.10

QUALITY CONTROL sTPH in Water (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			26/08/2009	[NT]	[NT]	LCS-W1	26/08/2009
Date analysed	-			26/08/2009	[NT]	[NT]	LCS-W1	26/08/2009
TPH C_{10} - C_{14}	µg/L	50	GC.3	<50	[NT]	[NT]	LCS-W1	71%
TPH C_{15} - C_{28}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	89%
TPH C_{29} - C_{36}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	85%
Surrogate o-Terphenyl	%		GC.3	91	[NT]	[NT]	LCS-W1	97%

QUALITY CONTROL Metals in Water - Dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Arsenic - Dissolved	mg/L	0.05	Metals.20 ICP-AES	<0.050	[NT]	[NT]	LCS-W1	99%
Cadmium - Dissolved	mg/L	0.01	Metals.20 ICP-AES	<0.010	[NT]	[NT]	LCS-W1	99%
Chromium - Dissolved	mg/L	0.01	Metals.20 ICP-AES	<0.010	[NT]	[NT]	LCS-W1	102%
Copper - Dissolved	mg/L	0.01	Metals.20 ICP-AES	<0.010	[NT]	[NT]	LCS-W1	102%
Lead - Dissolved	mg/L	0.03	Metals.20 ICP-AES	<0.030	[NT]	[NT]	LCS-W1	101%

QUALITY CONTROL Metals in Water - Dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Mercury - Dissolved	mg/L	0.0005	Metals.21 CV-AAS	<0.00050	[NT]	[NT]	LCS-W1	117%
Nickel - Dissolved	mg/L	0.02	Metals.20 ICP-AES	<0.020	[NT]	[NT]	LCS-W1	103%
Zinc - Dissolved	mg/L	0.02	Metals.20 ICP-AES	<0.020	[NT]	[NT]	LCS-W1	103%

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	32476-20	25/08/2009 || 25/08/2009	LCS-5	25/08/2009
Date analysed	-	32476-20	26/08/2009 || 26/08/2009	LCS-5	26/08/2009
vTPH C_6 - C_9	mg/kg	32476-20	<25 || <25	LCS-5	101%
Benzene	mg/kg	32476-20	<0.5 || <0.5	LCS-5	100%
Toluene	mg/kg	32476-20	<0.5 || <0.5	LCS-5	111%
Ethylbenzene	mg/kg	32476-20	<1.0 || <1.0	LCS-5	108%
m+p-xylene	mg/kg	32476-20	<2.0 || <2.0	LCS-5	93%
o-Xylene	mg/kg	32476-20	<1.0 || <1.0	LCS-5	94%
Surrogate aaa-Trifluorotoluene	%	32476-20	96 || 95 || RPD: 1	LCS-5	108%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	32476-20	25/08/2009 || 25/08/2009	LCS-5	25/08/2009
Date analysed	-	32476-20	25/08/2009 || 25/08/2009	LCS-5	25/08/2009
TPH C_{10} - C_{14}	mg/kg	32476-20	<50 || <50	LCS-5	75%
TPH C_{15} - C_{28}	mg/kg	32476-20	810 || <100	LCS-5	82%
TPH C_{29} - C_{36}	mg/kg	32476-20	870 || <100	LCS-5	78%
Surrogate o-Terphenyl	%	32476-20	# || #	LCS-5	78%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	32476-20	25/08/2009 || 25/08/2009	32476-4	25/08/2009
Date analysed	-	32476-20	26/08/2009 || 26/08/2009	32476-4	26/08/2009
Naphthalene	mg/kg	32476-20	0.4 || 0.4 || RPD: 0	32476-4	91%
Acenaphthylene	mg/kg	32476-20	2.2 || 2.5 || RPD: 13	[NR]	[NR]
Acenaphthene	mg/kg	32476-20	0.9 || 0.9 || RPD: 0	[NR]	[NR]
Fluorene	mg/kg	32476-20	2.1 || 2.7 || RPD: 25	32476-4	87%
Phenanthrene	mg/kg	32476-20	15 || 17 || RPD: 12	32476-4	#
Anthracene	mg/kg	32476-20	4.4 || 5.2 || RPD: 17	[NR]	[NR]
Fluoranthene	mg/kg	32476-20	31 || 31 || RPD: 0	32476-4	#
Pyrene	mg/kg	32476-20	31 || 31 || RPD: 0	32476-4	#
Benzo(a)anthracene	mg/kg	32476-20	13 || 13 || RPD: 0	[NR]	[NR]
Chrysene	mg/kg	32476-20	12 || 12 || RPD: 0	32476-4	#
Benzo(b+k)fluoranthene	mg/kg	32476-20	23 || 25 || RPD: 8	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	32476-20	18 || 19 || RPD: 5	32476-4	#
Indeno(1,2,3-c,d)pyrene	mg/kg	32476-20	9.4 || 9.7 || RPD: 3	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	32476-20	1.8 || 1.9 || RPD: 5	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	32476-20	8.4 || 8.4 || RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%	32476-20	100 || 100 || RPD: 0	32476-4	98%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	32476-20	25/08/2009 || 25/08/2009	LCS-2	25/8/09
Date analysed	-	32476-20	26/08/2009 || 26/08/2009	LCS-2	26/8/09
Arsenic	mg/kg	32476-20	12 || 11 || RPD: 9	LCS-2	97%
Cadmium	mg/kg	32476-20	0.5 || 0.6 || RPD: 18	LCS-2	99%
Chromium	mg/kg	32476-20	13 || 15 || RPD: 14	LCS-2	100%
Copper	mg/kg	32476-20	55 || 50 || RPD: 10	LCS-2	100%
Lead	mg/kg	32476-20	67 || 150 || RPD: 76	LCS-2	98%
Mercury	mg/kg	32476-20	0.1 || 0.2 || RPD: 67	LCS-2	102%
Nickel	mg/kg	32476-20	34 || 26 || RPD: 27	LCS-2	100%
Zinc	mg/kg	32476-20	110 || 170 || RPD: 43	LCS-2	101%
QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	32476-42	25/08/2009 || 25/08/2009	32476-4	25/08/2009
Date analysed	-	32476-42	26/08/2009 || 26/08/2009	32476-4	26/08/2009
vTPH C_6 - C_9	mg/kg	32476-42	<25 || <25	32476-4	87%
Benzene	mg/kg	32476-42	<0.5 || <0.5	32476-4	90%
Toluene	mg/kg	32476-42	<0.5 || <0.5	32476-4	95%
Ethylbenzene	mg/kg	32476-42	<1.0 || <1.0	32476-4	93%
m+p-xylene	mg/kg	32476-42	<2.0 || <2.0	32476-4	79%
o-Xylene	mg/kg	32476-42	<1.0 || <1.0	32476-4	79%
Surrogate aaa-Trifluorotoluene	%	32476-42	94 || 98 || RPD: 4	32476-4	101%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	32476-42	25/08/2009 || 25/08/2009	32476-4	25/08/2009
Date analysed	-	32476-42	25/08/2009 || 25/08/2009	32476-4	25/08/2009
TPH C_{10} - C_{14}	mg/kg	32476-42	<50 || <50	32476-4	87%
TPH C_{15} - C_{28}	mg/kg	32476-42	<100 || <100	32476-4	92%
TPH C_{29} - C_{36}	mg/kg	32476-42	<100 || <100	32476-4	88%
Surrogate o-Terphenyl	%	32476-42	90 || 93 || RPD: 3	32476-4	88%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	32476-42	25/08/2009 || 25/08/2009
Date analysed	-	32476-42	26/08/2009 || 26/08/2009
Naphthalene	mg/kg	32476-42	<0.1 || <0.1
Acenaphthylene	mg/kg	32476-42	<0.1 || <0.1
Acenaphthene	mg/kg	32476-42	<0.1 || <0.1
Fluorene	mg/kg	32476-42	<0.1 || <0.1
Phenanthrene	mg/kg	32476-42	<0.1 || <0.1
Anthracene	mg/kg	32476-42	<0.1 || <0.1
Fluoranthene	mg/kg	32476-42	<0.1 || <0.1
Pyrene	mg/kg	32476-42	<0.1 || <0.1
Benzo(a)anthracene	mg/kg	32476-42	<0.1 || <0.1
Chrysene	mg/kg	32476-42	<0.1 || <0.1
Benzo(b+k)fluoranthene	mg/kg	32476-42	<0.2 || <0.2
Benzo(a)pyrene	mg/kg	32476-42	<0.05 || <0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	32476-42	<0.1 || <0.1
Dibenzo(a,h)anthracene	mg/kg	32476-42	<0.1 || <0.1
Benzo(g,h,i)perylene	mg/kg	32476-42	<0.1 || <0.1
Surrogate p-Terphenyl-d_{14}	%	32476-42	94 || 97 || RPD: 3

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	32476-42	25/08/2009 || 25/08/2009	32476-4	25/8/09
Date analysed	-	32476-42	26/08/2009 || 26/08/2009	32476-4	26/8/09
Arsenic	mg/kg	32476-42	<4 || <4	32476-4	101%
Cadmium	mg/kg	32476-42	0.5 || <0.5	32476-4	99%
Chromium	mg/kg	32476-42	29 || 14 || RPD: 70	32476-4	100%
Copper	mg/kg	32476-42	57 || 49 || RPD: 15	32476-4	114%
Lead	mg/kg	32476-42	6 || 8 || RPD: 29	32476-4	107%
Mercury	mg/kg	32476-42	<0.1 || <0.1	32476-4	104%
Nickel	mg/kg	32476-42	86 || 65 || RPD: 28	32476-4	99%
Zinc	mg/kg	32476-42	42 || 37 || RPD: 13	32476-4	94%

Report Comments:

PCB's in soil: PQL raised due to interference from analytes in the sample.
PAH'S:# Percent recovery not reported due to interference from analytes in the sample.
Total Petroleum Hydrocarbons in soil (semi vol):# Percent recovery not reported due to high concentration of analytes in the sample.
Metals in soil: High %RPD accepted for Pb, Zn and Cr due to non-homogeneous sample.
Asbestos was analysed by Approved Identifier: Not applicable for this job
INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 33303

Client:
Environmental Investigations
17/1A Coulson St
Erskineville
NSW 2043

Attention: Vagner Jorden

Sample log in details:

Your Reference:	**E1074.1, Lewisham**
No. of samples:	3 Waters
Date samples received:	16/09/09
Date completed instructions received:	16/09/09

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	23/09/09
Date of Preliminary Report:	Not Issued
Issue Date:	22/09/09

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Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

vTPH & BTEX in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	33303-1 MW1 16/09/2009 Water	33303-2 MW2 16/09/2009 Water	33303-3 R1 16/09/2009 Water
Date extracted	-	18/09/2009	18/09/2009	18/09/2009
Date analysed	-	18/09/2009	18/09/2009	18/09/2009
TPH C_6 - C_9	µg/L	<10	<10	<10
Benzene	µg/L	<1.0	<1.0	<1.0
Toluene	µg/L	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	<1.0	<1.0	<1.0
m+p-xylene	µg/L	<2.0	<2.0	<2.0
o-xylene	µg/L	<1.0	<1.0	<1.0
Surrogate Dibromofluoromethane	%	117	98	100
Surrogate toluene-d8	%	96	95	95
Surrogate 4-BFB	%	88	91	91

sTPH in Water (C10-C36) Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	33303-1 MW1 16/09/2009 Water	33303-2 MW2 16/09/2009 Water	33303-3 R1 16/09/2009 Water
Date extracted	-	17/09/2009	17/09/2009	17/09/2009
Date analysed	-	17/09/2009	17/09/2009	17/09/2009
TPH C_{10} - C_{14}	µg/L	<50	<50	<50
TPH C_{15} - C_{28}	µg/L	<100	<100	<100
TPH C_{29} - C_{36}	µg/L	<100	<100	<100
Surrogate o-Terphenyl	%	124	120	123

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	33303-1 MW1 16/09/2009 Water	33303-2 MW2 16/09/2009 Water	33303-3 R1 16/09/2009 Water
Date extracted	-	17/09/2009	17/09/2009	17/09/2009
Date analysed	-	18/09/2009	18/09/2009	18/09/2009
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Surrogate p-Terphenyl-d_{14}	%	121	115	117

HM in water - dissolved Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	33303-1 MW1 16/09/2009 Water	33303-2 MW2 16/09/2009 Water	33303-3 R1 16/09/2009 Water
Date prepared	-	22/09/2009	22/09/2009	22/09/2009
Date analysed	-	22/09/2009	22/09/2009	22/09/2009
Arsenic-Dissolved	µg/L	<1.0	<1.0	<1.0
Cadmium-Dissolved	µg/L	<0.10	<0.10	<0.10
Chromium-Dissolved	µg/L	<1.0	<1.0	<1.0
Copper-Dissolved	µg/L	<1.0	<1.0	1.0
Lead-Dissolved	µg/L	<1.0	11	<1.0
Mercury-Dissolved	µg/L	<0.50	<0.50	<0.50
Nickel-Dissolved	µg/L	<1.0	1.0	<1.0
Zinc-Dissolved	µg/L	<1.0	13	24

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.22 ICP-MS	Determination of various metals by ICP-MS.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL vTPH & BTEX in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/09/2009	[NT]	[NT]	LCS-W1	18/09/2009
Date analysed	-			18/09/2009	[NT]	[NT]	LCS-W1	18/09/2009
TPH C_6 - C_9	µg/L	10	GC.16	<10	[NT]	[NT]	LCS-W1	101%
Benzene	µg/L	1	GC.16	<1.0	[NT]	[NT]	LCS-W1	93%
Toluene	µg/L	1	GC.16	<1.0	[NT]	[NT]	LCS-W1	101%
Ethylbenzene	µg/L	1	GC.16	<1.0	[NT]	[NT]	LCS-W1	103%
m+p-xylene	µg/L	2	GC.16	<2.0	[NT]	[NT]	LCS-W1	104%
o-xylene	µg/L	1	GC.16	<1.0	[NT]	[NT]	LCS-W1	103%
Surrogate Dibromofluoromethane	%		GC.16	96	[NT]	[NT]	LCS-W1	98%
Surrogate toluene-d8	%		GC.16	95	[NT]	[NT]	LCS-W1	99%
Surrogate 4-BFB	%		GC.16	78	[NT]	[NT]	LCS-W1	101%

QUALITY CONTROL sTPH in Water (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/09/09	[NT]	[NT]	LCS-W1	17/09/09
Date analysed	-			17/09/09	[NT]	[NT]	LCS-W1	17/09/09
TPH C_{10} - C_{14}	µg/L	50	GC.3	<50	[NT]	[NT]	LCS-W1	88%
TPH C_{15} - C_{28}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	109%
TPH C_{29} - C_{36}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	92%
Surrogate o-Terphenyl	%		GC.3	126	[NT]	[NT]	LCS-W1	135%

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/09/09	[NT]	[NT]	LCS-W1	17/09/09
Date analysed	-			18/09/09	[NT]	[NT]	LCS-W1	18/09/09
Naphthalene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	86%
Acenaphthylene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	96%
Phenanthrene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	93%
Anthracene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Fluoranthene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	94%
Pyrene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	97%
Benzo(a)anthracene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	99%
Benzo(b+k)fluoranthene	µg/L	2	GC.12 subset	<2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	LCS-W1	96%
Indeno(1,2,3-c,d)pyrene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	1	GC.12 subset	<1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	105	[NT]	[NT]	LCS-W1	121%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			22/09/09	[NT]	[NT]	LCS-W1	22/09/09
Date analysed	-			22/09/09	[NT]	[NT]	LCS-W1	22/09/09
Arsenic-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	107%
Cadmium-Dissolved	µg/L	0.1	Metals.22 ICP-MS	<0.10	[NT]	[NT]	LCS-W1	111%
Chromium-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	101%
Copper-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	95%
Lead-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	108%
Mercury-Dissolved	µg/L	0.5	Metals.21 CV-AAS	<0.50	[NT]	[NT]	LCS-W1	102%
Nickel-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	96%
Zinc-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	94%

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job
INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
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Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

APPENDIX G

Laboratory Analytical Report