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Report on
Preliminary Site Investigation

Proposed Multi-Storey Development
52 Scott Street, Liverpool

Prepared for
Built Development Group Pty Ltd

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Integrated Practical Solutions



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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

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	Page
1. Introduction.....	1
2. Scope of Works.....	2
3. Site Identification and Description.....	3
3.1 Site Identification.....	3
3.2 Site Description.....	3
3.3 Proposed Site Use	4
4. Regional Geology and Hydrogeology	4
5. Desktop Review	5
5.1 Historical Aerial Photographs	5
5.2 Historical Land Titles.....	6
5.3 SafeWork NSW Storage of Hazardous Chemicals Search	14
5.4 Council Section 10.7 Planning Certificates (Previously Section 149)	15
5.5 Council Records.....	15
5.6 Regulatory Notice Search	16
6. Preliminary Site Conceptual Model.....	16
6.1 Potential Contamination Sources	17
6.2 Potential Contamination Migration Pathways	17
6.3 Potential Receptors of Concern.....	17
6.4 Summary of Potential Complete Pathways	18
7. Fieldwork and Analysis	21
7.1 Data Quality Objectives and Project Quality Procedures	21
7.2 Data Quality Indicators.....	21
7.3 Fieldwork Methods.....	21
7.4 Field Quality Assurance and Quality Control.....	22
7.5 Laboratory QA/QC	22
7.6 Sample Location and Rationale	22
7.7 Soil Sampling Procedure	23
7.7.1 Sampling Procedure Specific to PFAS Sampling	23
7.8 Well Installation Details.....	23

7.9	Analytical Rationale	25
8.	Site Assessment Criteria.....	25
8.1	Soils	26
8.1.1	Health Investigation and Screening Levels.....	26
8.1.2	Management Limits – Petroleum Hydrocarbons.....	28
8.1.3	Asbestos in Soil.....	28
8.2	Groundwater	29
8.2.1	Groundwater Investigation Levels.....	30
8.2.2	Health Screening Levels – Petroleum Hydrocarbons	33
8.3	Soils- Waste Classification Criteria.....	34
9.	Results of Investigation	35
9.1	Field Observations	35
9.2	Field Testing Results	36
9.3	Laboratory Results.....	36
10.	Discussion of Results	36
10.1	Groundwater Results	36
10.2	Soil	37
10.2.1	Site Suitability.....	37
10.2.2	Waste Classification Results.....	37
11.	Discussion and Recommendations.....	38
12.	Conclusions.....	39
13.	Limitations	40

Appendix A:	Drawing and Notes About this Report
Appendix B:	Site Photographs
Appendix C:	Aerial Photographs, Historical Titles, SafeWork Letter and Section 10.7 Planning Certificates
Appendix D:	Data Quality Assessment
Appendix E:	Borehole and Test pit Logs
Appendix F:	Sample Receipt Advices, Chain of Custodies, Laboratory Certificates
Appendix G:	Soil and Groundwater Result Summary Tables

Report on Preliminary Site (Contamination) Investigation Proposed Multi-storey Development 52 Scott Street, Liverpool

1. Introduction

This report details the methodology and results of an updated preliminary site (contamination) investigation (PSI) undertaken by Douglas Partners Pty Ltd (DP) on the site identified as 52 Scott Street, Liverpool (the site), as shown on Drawing 1, Appendix A. The current investigation was commissioned by the client, Built Development Group Pty Ltd (Built), to assist with agreement finalisation between Built and Liverpool City Council (site owner).

DP has previously provided a PSI for a portion of the site in the following report:

- *Report on Preliminary Site (Contamination) Investigation for Proposed Multi-storey Development, 52 Scott Street, Liverpool, May 2017 (Ref: 85594.00.R.001.Rev1) (DP, 2017a).*

Furthermore, subsequent to DP (2017a), a waste classification and groundwater contamination investigation was undertaken on site and reported in:

- *Report on Preliminary Groundwater Contamination and Waste Classification Assessment, 52 Scott Street, Liverpool, May 2017 (Ref. 85594.00.R.002.Rev1) (DP, 2017b).*

Since DP (2017a) and DP (2017b) were reported, it is understood that Liverpool City Council has purchased five further adjacent lots to the site. As a result, the PSI has been updated to include a site history of the additional lots in the site, as well as the previous DP (2017b) contamination results alongside the current investigation results.

Therefore, the objectives of the updated PSI were to:

- Review and update DP (2017a), including current and historical information to gain an understanding of likely current and past land uses and hence potentially contaminating site activities;
- Review the results of DP (2017b);
- Develop a preliminary conceptual site model (CSM) based on the reviewed desktop information and site walkover;
- Conduct a limited soil and groundwater contamination investigation;
- Provide advice on the potential risk for and nature of contamination issues at the site.

The investigation was conducted and reported with reference to the National Environment Protection Council (NEPC) *National Environment Protection (Assessment of Site Contamination) Measure 1999* (amended 2013) (NEPC, 2013) and the NSW Office of Environment and Heritage *Guidelines for Consultants Reporting on Contaminated Sites 2011*.

2. Scope of Works

The scope of works for the updated PSI was as follows:

- Updated review of historical aerial photographs to assess past land uses and features for the additional lots;
- Reviewed land titles to identify previous owners that may indicate potentially contaminating activities for the additional lots;
- Reviewed the public databases held under the *Contaminated Land Management Act 1997* and the *Protection of the Environment Operations Act 1997* in regard to EPA issued notices or licenses for the whole site;
- Reviewed the Section 10.7 Planning Certificates for two of the additional lots (provided by the client);
- A site walkover was undertaken to observe site features and activities in the area of the added five lots and confirm that site features across the rest of the site are generally consistent with those observed in 2016; and
- Update of the PSI report (DP, 2017a), including text, drawings and appendices to reflect the revised site boundary and proposed development. The report includes findings of the site inspection and review of site history information, with comments on the potential nature and risk of contamination at the site and identification of any observed areas of contamination concern.

In addition to this, DP (2017b) was updated and the results of previous and current investigation was included in the updated PSI. In doing so, the scope of works was as follows:

- Set-out of the borehole/test pit locations by an engineer including a review of available service plans and electronic scanning for underground services at the borehole locations;
- Drilling of two boreholes and excavation of five test pits, to a maximum depth of 1.2 m or prior refusal, in the vacant areas of the additional lots (i.e. outside the building footprint) using a 4T excavator with auger attachment;
- Collection of soil samples from each borehole at regular depth intervals, changes in strata and/or upon sign of contamination;
- Measurement of groundwater levels in BH1 and BH2 and development of BH2 until the well was dry;
- After allowing BH2 to recharge for 4 days, a groundwater sample was collected from BH2 using low-flow techniques. Groundwater depths and field parameters were recorded and allowed stabilised prior to sampling;
- Laboratory analysis of seven selected soil samples for a combination of common contaminants at a NATA accredited laboratory, including:
 - o Heavy metals;
 - o Total recoverable hydrocarbons (TRH);
 - o Monocyclic aromatic hydrocarbons (benzene, toluene, ethylbenzene and xylene – BTEX);
 - o Polycyclic aromatic hydrocarbons (PAH);
 - o Phenols;

- o Polychlorinated biphenyls (PCB);
 - o Organochlorine pesticides (OCP);
 - o Organophosphorus pesticides (OPP);
 - o Asbestos;
 - o Perfluorinated compounds (PFAS);
 - o Hardness; and
 - o Toxicity characteristic leaching procedure (TCLP);
- Laboratory analysis of one groundwater sample from BH2 for heavy metals, PFAS and hardness at a NATA accredited laboratory; and
- Provision of this PSI report updated with the previous and current investigation results. The PSI also included a preliminary waste classification with respect to the NSW EPA *Waste Classification Guidelines* 2014. It is noted that the groundwater guidelines were updated in 2018 and hence review of the results with respect to the updated guidance was undertaken.

3. Site Identification and Description

3.1 Site Identification

The site is identified as 52 Scott Street, Liverpool and comprises the following lots:

- Lots 1, 2 and 3 Deposited Plan 229979;
- Part of Lots 22 and 23 Deposited Plan 441010;
- Lot 17 Deposited Plan 81842;
- Lot 1 Deposited Plan 507070;
- Lot 100 Deposited Plan 877435 (added 2019);
- Lot 12 Deposited Plan 657056 (added 2019);
- Lot 11 Deposited Plan 522284 (added 2019); and,
- Lots 1 and 2 Deposited Plan 1146671 (added 2019).

The site is located in the parish of St Luke and Cumberland County. The site covers an approximate area of 0.75 ha and has street frontage of approximately 100 m along Scott Street and 115 m along Terminus Street (refer to Drawing 1, Appendix A).

3.2 Site Description

A site walkover was undertaken on 22 March 2019 to confirm that site use and observations made from the previous site walkover undertaken on 4 August 2016 (DP, 2017a) had not significantly changed. Additionally, the site walkover observed the present land use of the additional lots and assessed the potential for contamination. Photographs from the inspection are provided in Appendix B.

The site is irregular in shape and can be generally segregated into northern and southern areas. The northern half of the site is covered by a commercial building. The eastern end of the building was vacant with temporary private and commercial tenants with the rest of the building used as a gym. The southern section of the site is dominated by an open air multi-storey car park which also extends on top of the commercial premises across the north of the site. A loading dock is located in the central area of the site with access via a bitumen driveway along the western site boundary off Terminus Street.

The site slopes from south to north/north-west. In this regard, it appears that a void has been constructed between the lower level of the car park (at street level with Terminus Street) and the ground surface (suggested by the ventilation bricks). There were no obvious signs of contaminating activities or features on the site.

The north eastern corner of the site contained a double storey commercial building (a sports shop), with a vacant grass covered lot between this building and the carpark/building on the western portion of the site. Rubbish and building materials were observed in the grass of the vacant lot and in the rear car park of the sports shop (accessed off Terminus Street).

To the north and east buildings were used for commercial purposes, predominantly retail on the ground level. To the south on the opposite side of the Terminus Street was a mixture of commercial properties and a Telstra communications exchange building. Bordering the southern section of the western boundary was a car service centre/mechanic whilst the northern section of the western boundary was a new commercial/residential multi-storey building.

3.3 Proposed Site Use

It is understood that the proposed development will comprise of three car park basement levels, with the multi-storey buildings used for several purposes including council offices, library, community space, hotel, retail and commercial office space. The basement footprint is proposed to cover the entire site and therefore, by extension, involves bulk excavation of the whole site.

4. Regional Geology and Hydrogeology

The *Penrith 1:100 000 Geological Series Sheet* indicates that the site is underlain by Bringelly Shale of the Wianamatta Group from the Middle Triassic period. It comprises shale, carbonaceous claystone, claystone, fine to medium grained lithic sandstone with rare coal and tuff. This generally weathers to form residual clays.

The geological setting is shown in Figure 1.

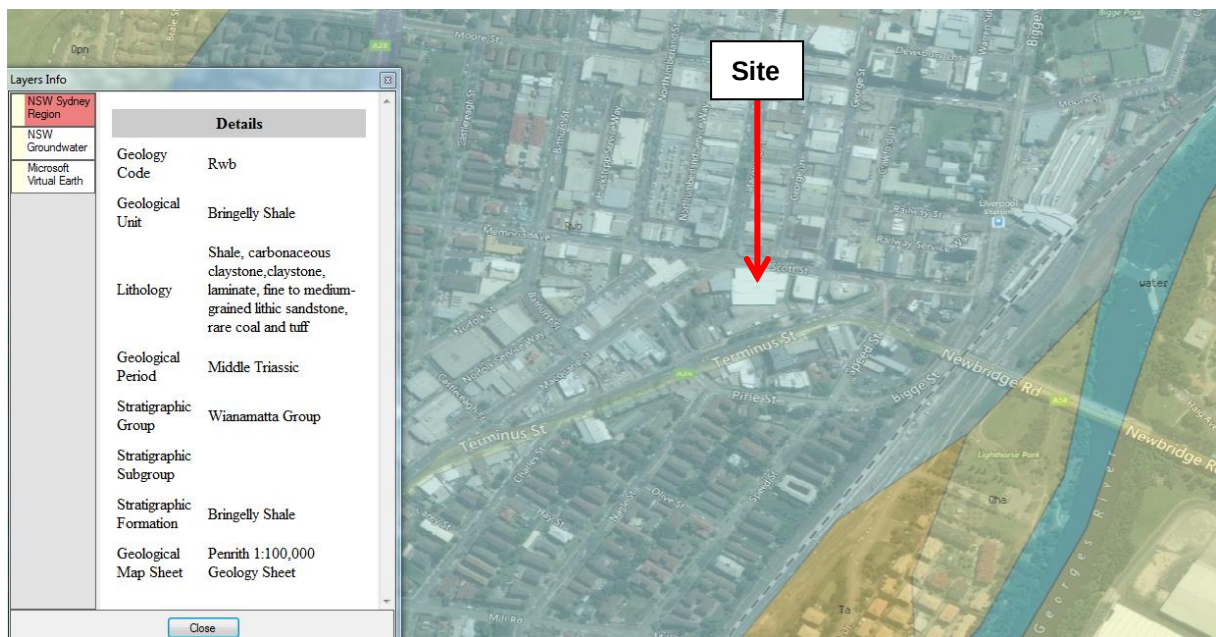


Figure 1: Showing the Geological Setting of the Site

Reference to the Acid Sulphate Soil Risk Map published by the Department of Land and Water Conservation indicates that the site has no known occurrence of acid sulphate soil conditions.

There is a local high point (approximately 28 AHD) on the southern side of Terminus Street. Given this, the local topography tends to fall both towards the north/north-west and to the east in the direction of the Georges River.

A search of groundwater bores registered with the Department of Primary Industries on 2 April 2019 revealed no bores within 500 m of the site. The direction of groundwater flow is unclear, however, given the proximity to the site to the Georges River (approximately 400 m) it could be expected to flow to the north-east in the direction of the river.

5. Desktop Review

5.1 Historical Aerial Photographs

Historical aerial photographs were obtained from databases held by the NSW Land & Property Information Division for the years 1930, 1943, 1955, 1961, 1970, 1986, 1994 and 2005 with Nearmap the source of the 2018 photograph. Extracts of the photographs are provided in Appendix C.

1930 – Although the photograph is unclear, the site appears have some buildings on it. The surrounding area appears to be in the process of being developed with a mixture of vacant and (primarily) residential buildings in the area.

1943 – The site is covered by a number of residential buildings in the south-western and south-eastern areas of the site. Buildings also occupy the north-western section of the site, however, it is unclear what their use is. Additionally, the land titles (refer to Section 5.2) suggest the building on the north side of the site in the centre could be a fire station. Large sections of the site appear to be grassed. Surrounding land use still appears to be predominantly for residential purposes although more commercial buildings are present.

1955 and 1961– A new large building now occupies the north-western section of the site and the residential house in the north eastern corner of the site has been replaced by a larger building. The rest of the site appears to be relatively unchanged. Commercial buildings appear to have progressively replaced some of the residential buildings in the surrounding area.

1970 - The site has undergone significant development with the removal of all previous structures on the western portion of the site and the construction of a building and car park which covers the majority of the site. The eastern portion of the site remains mostly unchanged. The adjacent property to the southern section of the site's western boundary is also occupied by a commercial building. More dense commercial development has continued in the surrounding area.

1986 and 1994 - There are no apparent significant changes to the site, whilst the local area has undergone progressive commercial development.

2005, 2016 and 2018 - There are no apparent significant changes to the western portion of the site, however in the eastern portion of the site, there is a vacant lot and a new commercial in the north eastern corner of the site. The local area has undergone progressive commercial development, with the completion of the new large buildings west of the site.

No signs of significant contaminating activities were observable from the aerial photographs.

5.2 Historical Land Titles

A historical title deeds search was used to obtain ownership and occupancy information including company names and the occupations of individuals. The title information can assist in the identification of previous land uses by the company names or the site owners and can, therefore, assist in establishing whether there were potentially contaminating activities occurring at the site. Moreover, the profession of the owner can also assist with identifying potential land use/site activities, however, does not always reflect a related land use. Title information was obtained by DP from Scott Ashwood Pty Ltd and InfoTrack. A copy of the title information provided to DP, including the cadastre maps, is included in Appendix C. Some information on easements and leases is also included.

Table 1: Historical Land Titles for Lot 3 Deposited Plan 229979

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
08.01.1902 (1902 to 1965)	Minister for Public Works (Site for Fire Station)	Fire Station
16.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Commercial
17.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial

Note: # Denotes current owner.

Table 2: Historical Land Titles for Lot 17 Deposited Plan 81842

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
12.05.1913 (1913 to 1965)	Board of fire Commissioners of New South Wales	Fire Station
16.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Commercial
17.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial

Note: # Denotes current owner.

Table 3: Historical Land Titles for Part of Lot 22 Deposited Plan 441010

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
15.09.1882 (1882 to 1947)	Bank of New South Wales	Vacant (Grassed)
20.06.1947 (1947 to 1950)	Richard Arthur Wicks (Bank Officer) Thelma Lucy Wicks (Married Woman)	Vacant (Grassed)
23.12.1950 (1950 to 1951)	Stephanie Genevieve Hosford (Married Woman)	Vacant (Grassed)
01.06.1951 (1951 to 1954)	Delbourg Corporation Pty Limited	Vacant (Grassed)
14.01.1954 (1954 to 1956)	Samuel Salvatore Dimarco (Radio Dealer)	Vacant (Grassed)
23.08.1956 (1956 to 1965)	Guiseppe Caristo (Boot Maker)	Commercial/ Car Park
29.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/ Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/ Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/ Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/ Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/ Car Park
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/ Car Park

Note: # Denotes current owner.

Table 4: Historical Land Titles for Part of Lot 23 Deposited Plan 441010

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
15.09.1882 (1882 to 1947)	Bank of New South Wales	Vacant (Grassed)
20.06.1947 (1947 to 1950)	Richard Arthur Wicks (Bank Officer) Thelma Lucy Wicks (Married Woman)	Vacant (Grassed)
23.12.1950 (1950 to 1951)	Stephanie Genevieve Hosford (Married Woman)	Vacant (Grassed)
01.06.1951 (1951 to 1954)	Delbourg Corporation Pty Limited	Vacant (Grassed)
14.01.1954 (1954 to 1957)	Samuel Salvatore Dimarco (Radio Dealer)	Vacant (Grassed)
05.06.1957 (1957 to 1965)	John Henry Ford (Florist) Marian Ford (Married Woman)	Vacant (Grassed)
18.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Commercial/ Car Park

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
29.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/ Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/ Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/ Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/ Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/ Car Park
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/ Car Park

Note: # Denotes current owner.

Table 5: Historical Land Titles for Lot 1 Deposited Plan 507070

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
30.03.1916 (1916 to 1923)	Alice Mary Rose (Married Woman)	Residential
30.10.1923 (1923 to 1965)	Thomas Patrick Fitzpatrick (Baker, now retired) Mary Jane Fitzpatrick (Married Woman)	Residential/ Commercial (bakery)
18.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Commercial/ Car Park
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/ Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/ Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/ Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/ Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/ Car Park
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/ Car Park

Note: # Denotes current owner.

Table 6: Historical Land Titles for Lot 2 Deposited Plan 229979 (as indicated as 1 and 3 on cadastre plan, Appendix C)

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
22.02.1907 (Part 3) (1907 to 1936) 25.11.1911 (part 1) (1911 to 1936)	Florence May Murphy (Married Woman)	Residential/Commercial
17.04.1936 (1936 to 1960)	Francis William Young (Produce Merchant)	Commercial (Produce)
24.11.1960 (1960 to 1965)	N.S.W. Produce Co. Pty Limited	Commercial
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/ Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/ Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/ Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/ Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/ Car Park
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/ Car Park

Note: # Denotes current owner.

Table 7: Historical Land Titles for Lot 2 Deposited Plan 229979 (as indicated as 2 on cadastre plan, Appendix C)

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
22.02.1907 (1907 to 1933)	Florence May Murphy (Married Woman)	Vacant/Residential/Commercial
03.05.1933 (1933 to 1965)	Francis William Young (Produce Merchant)	Commercial (Produce)
09.04.1965 (1965 to 1965)	N.S.W. Produce Co. Pty Limited	Commercial (Produce)
04.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/ Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/ Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/ Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/ Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/ Car Park

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/Car Park

Note: # Denotes current owner.

Table 8: Historical Land Titles for Lot 1 Deposited Plan 229979

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
07.10.1916 (1916 to 1945)	Alice Mary Rose (Married Woman)	Residential
20.10.1945 (1945 to 1965)	George Garard (Railway Employee)	Residential
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Commercial/Car Park
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Commercial/Car Park
27.06.1969 (1969 to 1985)	State Superannuation Board	Commercial/Car Park
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Commercial/Car Park
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	Commercial/Car Park
04.10.2011 (2011 to date)	# Council of the City of Liverpool	Commercial/Car Park

Note: # Denotes current owner.

Table 9: Historical Land Titles for Lot 10 Deposited Plan 877435

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
<i>As regards the part numbered (1) on the attached Cadastral Records Enquiry Report</i>		
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand)	Residential
08.06.1951 (1951 to 1953)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Commercial
18.09.1953 (1953 to 1957)	George Edward Humphrys (Electrical Retailer) Dorothy June Humphrys (Married Woman)	Commercial
15.05.1957 (1957 to 1988)	Humphrys Pty Limited	Commercial
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Commercial

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
<i>As regards the part numbered (2) on the attached Cadastral Records Enquiry Report</i>		
16.03.1923 (1923 to 1949)	Margaret (or Mary Agnes) Fitzpatrick (& Her Bankrupt Estate)	Residential
01.06.1949 (1949 to 1968)	Everard George Connolly (Engineer) Marjorie Ellen Connolly (Married Woman)	Residential
05.02.1968 (1968 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Residential
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Commercial
<i>As regards the part numbered (3) on the attached Cadastral Records Enquiry Report</i>		
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand)	Residential
08.06.1951 (1951 to 1954)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Commercial
28.01.1954 (1954 to 1955)	Roy Donald Woods Caterson (Estate Agent)	Commercial
03.08.1955 (1955 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Commercial
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Commercial
<i>As regards the part numbered (4) on the attached Cadastral Records Enquiry Report</i>		
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand)	Residential
08.06.1951 (1951 to 1954)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Commercial
28.01.1954 (1954 to 1973)	John Patrick O'Neill	Commercial
16.02.1973 (1973 to 1976)	Salzburg Investments Pty Limited	Commercial
12.03.1976 (1976 to 2004)	Gard's Variety Store Pty Limited	Commercial
<i>Continued as regards the whole of Lot 100 D.P. 877435</i>		
29.11.2004 (2004 to 2007)	One Spencer Street Pty Limited	Commercial
22.10.2007 (2007 to 2019)	Tongda International Tobacco Pty Ltd	Commercial
01.02.2019 (2019 to date)	# Liverpool City Council	Commercial

Note: # Denotes current owner.

Table 10: Historical Land Titles for Lot 12 Deposited Plan 657056

(A small strip of land along the south west boundary has been included by encroachment. Searches have not been conducted against this small strip.)

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
23.03.1916 (1916 to 1920)	Margaret Ethel Forrester (Married Woman)	Residential
18.02.1920 (1920 to 1940)	Lucy Taylor (Married Woman)	Residential
11.09.1940 (1940 to 1965)	Henry Alexander Taylor (Pressman) William Taylor (Labourer) Vesta Florence Bamford (Married Woman)	Residential
09.12.1965 (1965 to 1972)	Peter Roland Thomas Edward Thomas (Publisher) Eileen Mary Thomas (Married Woman)	Commercial
09.08.1972 (1972 to 1999)	Perram's Electrical & Television Pty Ltd	Commercial
02.07.1999 (1999 to 2001)	Landmark Square Developments Pty Limited	Commercial
05.12.2001 (2001 to 2008)	Gazcon Pty Limited	Commercial
06.09.2008 (2008 to 2019)	Australia New Century International Duty Free Pty Limited, now Australia New Century International Pty Limited	Commercial
31.01.2019 (2019 to date)	# Liverpool City Council	Commercial

Note: # Denotes current owner.

Table 11: Historical Land Titles for Lot 11 Deposited Plan 522284

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand)	Residential
08.06.1951 (1951 to 1952)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent)	Commercial
24.06.1952 (1952 to 1952)	Ainslie Lawrence Chun (Manufacturer)	Commercial
24.06.1952 (1952 to 1958)	Frank Edwin Ollis (Printer)	Commercial
14.08.1958 (1958 to 1999)	Perram's Electrical & Television Pty Ltd	Commercial
02.07.1999 (1999 to 2001)	Landmark Square Developments Pty Limited	Commercial
05.12.2001 (2001 to 2008)	Gazcon Pty Limited	Commercial

06.09.2008 (2008 to 2019)	Australia New Century International Duty Free Pty Limited, now Australia New Century International Pty Limited	Commercial
31.01.2019 (2019 to date)	# Liverpool City Council	Commercial

#Denotes current registered proprietor

Table 12: Historical Land Titles for Lot 1 Deposited Plan 1146671

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
16.03.1923 (1923 to 1949)	Margaret (or Mary Agnes) Fitzpatrick (& Her Bankrupt Estate)	Residential
01.06.1949 (1949 to 1968)	Everard George Connolly (Engineer) Marjorie Ellen Connolly (Married Woman)	Residential
05.02.1968 (1968 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Residential
28.11.1988 (1988 to date)	# Victordot Pty Limited	Commercial

Note: # Denotes current owner.

Table 13: Historical Land Titles for Lot 2 Deposited Plan 1146671

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Potential Land Use
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand)	Residential
08.06.1951 (1951 to 1953)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Commercial
18.09.1953 (1953 to 1957)	George Edward Humphrys (Electrical Retailer) Dorothy June Humphrys (Married Woman)	Commercial
15.05.1957 (1957 to 1988)	Humphrys Pty Limited	Commercial
28.11.1988 (1988 to date)	Victordot Pty Limited	Commercial

Note: # Denotes current owner.

5.3 SafeWork NSW Storage of Hazardous Chemicals Search

A search of records held by SafeWork NSW was requested by DP as part of DP (2017a), it therefore only relevant to a portion of the site. SafeWork advised that they had not located from their records any information on licences for keeping dangerous goods within the seared area (i.e. the site boundary for DP (2017a)). A copy of the search result is provided in Appendix C.

5.4 Council Section 10.7 Planning Certificates (Previously Section 149)

Section 149 and 10.7 Planning certificates dated 23 August 2016 and 23 October 2018 were provided to DP by the client for selected lots. The review of the certificate indicated that:

- The site is zoned B4-Mixed Use;
- The land has not been identified as significantly contaminated land within the meaning of the *Contaminated Land Management Act 1997* (CLM Act);
- The land is not subject to a management order within the meaning of the CLM Act;
- The land is not the subject of an approved voluntary management proposal or maintenance order within the meaning of the CLM Act; and
- Council has not been provided with a site audit statement for this land.

A copy of the provided Section 149 and 10.7 Planning certificates are included in Appendix C.

5.5 Council Records

A request to review available Council records associated with the site under the *Government Information (Public Access) Act 2009* was made on 26 July 2016. The requested records were with respect to *inter alia*:

- Information indicating previous landuse and site activities;
- Previous contamination assessments; and
- Pollution notifications or other breaches of Council's environmental policies.

Numerous records were provided, primarily comprising notices of determination for various development applications. Approved applications (with conditional consent) included:

- Erection of a shop with covered and open roof deck car parking for Westfield Development Corporation Ltd (1966);
- Redevelopment of the site for residential units and commercial space (gym, retail) and car parking for New Heritage Developments Pty Ltd (1998);
- Demolition of existing building and car park (2003); and
- Various fit out, alterations and additions to the existing commercial space. These included the use of the commercial space for medical consulting rooms (1986), clothing shop (1986), retail shopping facilities (1988), market stalls (1992 and 1993), café/restaurant (2008) office space (2012) and gym (2012).

The council records were not updated as part of the current investigation as there has been minimal change to the site since the previous investigation, as shown in the historical aerial photographs (Section 5.1).

5.6 Regulatory Notice Search

The EPA publishes records of contaminated sites under section 58 of the *Contaminated Land Management Act 1997* (CLM Act) on a public database accessed via the internet. The notices relate to investigation and/or remediation of site contamination considered to be significantly contaminated under the definition in the CLM Act. More specifically the notices cover the following:

- Actions taken by the EPA under sections 15, 17, 19, 21, 23, 26 or 28 of the CLM Act;
- Actions taken by the EPA under sections 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985*; and
- Site audit statements provided to the EPA under section 52 of the CLM Act on sites subject to an in-force remediation order.

A search of the public database on 1 April 2019 indicated that neither the site nor any other properties within a 500 m radius were listed.

It should be noted that the EPA record of Notices for contaminated land does not provide a record of all contaminated land in NSW.

The NSW EPA also issues environmental protection licenses under section 308 of the *Protection of the Environment Operations Act 1997* (POEO Act). The register contains:

- Environmental protection licenses;
- Applications for new licenses and to transfer or vary existing licenses;
- Environment protection and noise control licenses;
- Convictions in prosecutions under the POEO Act;
- The result of civil proceedings;
- License review information;
- Exemptions from provisions of the POEO Act or Regulations;
- Approvals granted under Clause 9 of the POEO (Control of Burning) Regulation; and
- Approvals granted under Clause 7a of the POEO (Clean Air) Regulation.

A search of the public register on 1 April 2019 indicated that no licenses were listed for the site or properties within 500 m.

6. Preliminary Site Conceptual Model

A CSM is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future i.e. it enables an assessment of the potential source – pathway – receptor linkages (complete pathways).

6.1 Potential Contamination Sources

Potential sources of contamination listed below are based on the site walkover and review of the desktop information (Sections 3 to 5).

- S1 – Uncontrolled filling:
COPC include metals, TRH, BTEX, PAH, OCP, OPP, PCB, phenols and asbestos.
- S2 – Existing (and former) buildings on site:
COPC include lead, PCB, synthetic mineral fibres (SMF) and asbestos.
- S3 – Former site use as a fire station:
COPC include volatile organic compounds (VOC), TRH, BTEX, PAH, PFAS and metals.
- S4 – Adjacent site use as a car service centre/mechanic:
COPC include VOC, TRH, BTEX, PAH and metals.

For the purpose of developing a CSM, the potential sources of contamination can be defined as demolition and deterioration of current and previous site structures.

6.2 Potential Contamination Migration Pathways

The pathways by which the potential sources of contamination could reach potential receptors are described below:

- P1 – Ingestion and dermal contact;
- P2 – Inhalation of dust and/or vapours;
- P3 – Leaching of contaminants and vertical migration into groundwater; and
- P4 – Direct contact with terrestrial ecology.

6.3 Potential Receptors of Concern

The potential receptors of potential contamination sourced from the site are considered to be:

Human Health

- R1 – Current users (commercial);
- R2 – End users (commercial and residential);
- R3 – Construction and maintenance workers; and
- R4 – Adjacent site users (commercial and residential).

Environmental

- R5 – Groundwater; and
- R6 – Terrestrial ecology.

It is noted that given the distance from the nearest water body (Georges River), the local topography, development of the surrounding areas, and the existing and proposed development of the site, there is not considered to be an impact on local waterways from surface water. Additionally, given that bulk excavation of the site is required, and the new building will cover the footprint of the property, terrestrial ecology is not considered to be a viable receptor and therefore will not be considered further.

6.4 Summary of Potential Complete Pathways

A 'source–pathway–receptor' approach has been used to assess the potential risks of harm being caused to human or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways (potential complete pathways). The possible pathways between the above sources (S1 to S4) and receptors (R1 to R5) are provided in Table 14 below.

Table 14: Summary of Potential Complete Pathways

Source	Transport Pathway	Receptor	Risk Management Action Recommended
S1: Uncontrolled Filling Metals, TRH, BTEX, PAH, OCP, OPP, PCB, phenols and asbestos S3: Former Site use as a Fire Station VOC, TRH, BTEX, PAH, PFC's, metals.	P1: Ingestion and dermal contact	R1: Current users (commercial). R2: End users (commercial and residential) R3: Construction and maintenance workers.	All filling is expected to be removed as part of the development through bulk excavation and hence is not considered to pose a risk following construction works. Soils are to be assessed to confirm their waste classification prior to off-site disposal and the site inspected to confirm removal of all filling on completion of bulk excavation (preliminary waste classification provided as part of this assessment).
	P2: Inhalation of dust and/or vapours	R1: Current users (commercial). R2: End users (commercial and residential) R3: Construction and maintenance workers. R4: Adjacent users (commercial and residential)	Initial screening for groundwater quality with particular focus on the down-gradient (northern) section of the site and in the area of the former fire station (north-eastern corner) to be undertaken. Also, to assess the potential for off-site migration (i.e. this assessment).
	P3: Leaching of contaminants and vertical migration into groundwater	R5: Groundwater	Implementation of remedial measures into the design of the building should soil vapour/contaminated groundwater be of concern. Note: Remedial measures generally already included as part of the construction e.g. concrete slabs, ventilated basement car park etc.

Source	Transport Pathway	Receptor	Risk Management Action Recommended
S2: Existing (and former) Buildings on Site Lead, PCB, SMF and asbestos	P1: Ingestion and dermal contact P2: Inhalation of dust and/or vapours	R1: Current users (commercial). R3: Construction and maintenance workers. R4: Adjacent users	Hazardous building materials survey of the existing buildings to be undertaken and subsequent appropriate removal of hazardous materials in structures prior to demolition. Assessment of soils post removal of buildings to confirm waste classification prior to off-site disposal (as per above).
S4: Adjacent Site Use (south west) as a Car Service Centre/ Mechanic VOC, TRH, BTEX, PAH, metals	P2: Inhalation of dust and/or vapours	R1: Current users (commercial). R2: End users (commercial and residential) R3: Construction and maintenance workers.	Initial screening for groundwater quality in the south-western section of the site adjacent to the car service centre/mechanic. (i.e. this assessment). Implementation of remedial measures into the design of the building should soil vapour/contaminated groundwater be of concern. Note: Remedial measures generally already included as part of the construction e.g. concrete slabs, ventilated basement car park etc.

7. Fieldwork and Analysis

7.1 Data Quality Objectives and Project Quality Procedures

This Preliminary Groundwater Contamination and Waste Classification Assessment has been devised broadly in accordance with the seven-step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of NEPC (2013). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

Referenced sections for the respective DQOs listed above are presented in Table Q1, Appendix D.

7.2 Data Quality Indicators

The performance of the assessment in achieving the DQO was assessed through the application of Data Quality Indicators (DQI), defined as follows:

Precision:	A quantitative measure of the variability (or reproducibility) of data;
Accuracy:	A quantitative measure of the closeness of reported data to the “true” value;
Representativeness:	The confidence (expressed qualitatively) that data are representative of each media present on the site;
Completeness:	A measure of the amount of useable data from a data collection activity; and
Comparability:	The confidence (expressed qualitatively) that data can be considered equivalent for each sampling and analytical event.

Further comments on the DQIs are presented in Appendix D.

7.3 Fieldwork Methods

DP (2017a) involved the auguring of nine test bores using a drill rig where possible and hand tools where access was limited. Bores using the rig were solid flight augured to top of rock whilst those undertaken using hand tools extended into natural soils or prior refusal. Two test bores were drilled for groundwater well installation to between 11.7 m and 14 m bgl. Groundwater well installation is discussed in Section 7.8. The work was undertaken on 15 and 16 August 2016.

The current investigation involved the excavation of five test pits and augering of two additional test bores. The test pits were excavated using a 3.5 tonne (T) excavator with a 500 mm bucket, to a depth of up to 1.1 m below ground level (bgl) and into natural soils or prior refusal. It is noted that TP103 and TP104 were terminated at 0.4 m and 0.7 m respectively due to the observation of potential asbestos. Following concrete coring, test bores were augured using 3.5T excavator with an auger attachment to a depth of 0.6 m into natural soils. The additional work was undertaken on 26 March 2019.

The depths of each bore and drilling methods are shown on the test bore logs provided in Appendix E.

7.4 Field Quality Assurance and Quality Control

The field QC procedures for sampling were as prescribed in Douglas Partners' *Field Procedures Manual* and are outlined later in this section.

Field replicates were recovered and analysed for a limited suite of contaminants by means of intra-laboratory analysis. Soil and water trip blanks, and soil and water trip spikes were also taken into the field during the respective soil sampling and groundwater sampling. This is in general accordance with standard industry practice and guidelines.

7.5 Laboratory QA/QC

The analytical laboratories, accredited by NATA, are required to conduct in-house QA/QC procedures. These are normally incorporated into every analytical run and include reagent blanks, spike recovery, surrogate recovery and duplicate samples. These results are included in the laboratory certificates in Appendix F.

The results of the DP assessment of laboratory QA/QC are shown in Appendix D with the laboratory certificates of analysis, sample receipt notes and chain of custody documentation included in Appendix F.

7.6 Sample Location and Rationale

The recommended minimum sampling density for site characterisation, as stipulated in the NSW EPA's *Contaminated Sites: Sampling Design Guideline, 1995* for a 0.75 ha site, is 19 sampling points on a grid basis. This sampling density would typically also be adopted for an *in situ* waste classification assessment. However, given the current operating nature of the site and limited access due to the large building footprint, a preliminary waste classification was undertaken which typically comprises of fewer locations than the recommended density. In this regard, sixteen locations have been sampled within the site's accessible areas.

The two groundwater well locations were selected based on available site access and to address the potential areas of contamination concern identified in DP (2017a). In this regard, BH1 seeks to address the car service centre/mechanic to the south-west, and BH2 focuses on near the north-eastern corner, where the former fire station was located. As access was limited in the north-western section of the site (due to the existing building), no groundwater well was constructed in this area. As a result assessment of the groundwater flow direction was limited.

The test bore and well locations are shown on Drawing 1, Appendix A.

7.7 Soil Sampling Procedure

All sample locations were cleared for services and underground pipes by a services locator and by review of dial-before-you-dig (DBYD) plans.

All sampling data was recorded on DP's test pit and test bore logs with essential information included in the chain-of-custody sheets. The general sampling procedure adopted for the collection of environmental samples is summarised below:

- Collection of soil samples directly from auger, pit wall or excavator bucket using disposable sampling equipment;
- Transfer of samples into laboratory-prepared glass jars, filled to the top to minimise the headspace within the sample jar and capping immediately to minimise loss of volatiles. Replicate samples were placed into snap lock plastic bags for asbestos analysis;
- Labelling of sample containers with individual and unique identification, including project number, sample location and sample depth; and
- Placement of the glass jars, with Teflon lined lid, into an ice cooled, insulated and sealed container for transport to the laboratory.

7.7.1 Sampling Procedure Specific to PFAS Sampling

With regards to PFAS sampling, reference was made to NSW EPA (2016) Designing Sampling Programs for Sites Potentially Contaminated by PFAS. The procedures described above applied to the sampling of PFAS, however, the following modifications were made:

- Samples were placed into PFAS-suitable plastic containers provided by the laboratory as opposed to glass jars; and
- Samples were kept cool using ice that was double bagged as opposed to the use of ice bricks.

In addition, care was taken during sampling to prevent PFAS cross-contamination, as summarised below (it should be highlighted that only the key sampling requirements are listed below):

- Clothing with stain-resistant, rain-resistant or waterproof coatings / treated fabric were not worn;
- All clothing that was worn to site had been washed a minimum of six times after purchase; and
- Fast food wrappers / containers and pre-wrapped foods and snacks were not brought within 2 m to 3 m of the sampling location.

7.8 Well Installation Details

Groundwater monitoring wells were installed in BH1 and BH2, as shown on Drawing 1, Appendix A, as part of DP (2017b). The two groundwater well locations were selected based on available site access and to address the potential areas of contamination concern identified in DP (2017a). In this regard,

BH1 seeks to address the car service centre/mechanic to the south-west, and BH2 focuses on the north-eastern corner, where the former fire station was located.

Field observations did not record any groundwater during solid flight auguring and coring methods (in BH1 and BH2) precluded observations of groundwater. Accordingly, the monitoring well screen was extended from the base of the well to (approximately) the top of rock (between 1.0 m and 1.1 m bgl). The remaining section of the well was completed with casing (solid PVC pipe).

The groundwater monitoring wells were constructed of 50 mm diameter acid washed class 18 PVC casing and machine slotted well screen intervals. Joints were screw threaded, thereby avoiding the use of glues and solvents which may contaminate the wells.

Wells were backfilled with 2 mm gravel to 0.5 m above the top of the screen. A 0.5 m thick bentonite plug was installed above the gravel in each well, with the remaining annulus backfilled with gravel and clean natural soils. Each well was finished at surface level and covered with a gatic cover for protection. The well construction details and the ground surface levels are recorded on the test bore logs (Appendix E).

Following installation, each well was developed on 17 August 2016 by removing all groundwater using a submersible pump until the well was dry. Groundwater was then allowed to recharge and water levels were measured during sampling using an interface meter on 19 August 2016 and 1 September 2016. No phase separated hydrocarbons (PSH) were detected. This is consistent with the field observations which did not record odours or observe hydrocarbons.

The wells were micro-purged on 19 August 2016 using a low flow pump (Geopump) until field parameters (pH, temperature, dissolved oxygen (DO), conductivity, total dissolved solids (TDS) and redox) readings stabilised. Once field parameters had stabilised, samples were collected using the low flow pump. Samples were placed with a minimum of aeration into appropriately preserved bottles.

It is noted that a grab sample using a low flow pump was collected on 1 September 2016 for the purpose of checking the initial heavy metal results. Field parameters were not obtained given the purpose of this sampling event and that these parameters had previously been recorded.

BH2 was resampled using the same methods (including PFAS-suitable HDPE tubing and as per Section 7.7.1), with development undertaken on 22 March 2019 and micropurging and sampling on 26 March 2019.

For analysis of metals the relevant sample fraction was filtered using a new in-line disposable 0.45 µ filter for each sample.

The sample pump and all non-disposable sampling equipment were decontaminated between samples via a "triple rinse" procedure i.e. a rinse of all particulates in tap water followed a decontamination using a Liquinox solution and a final rinse in deionised water.

The sample management comprised the following:

- Collection of 10% replicate samples for QA/QC purposes. In addition, laboratory prepared trip spike and blank were taken into the field unopened on the day of sampling;

- Placement of samples in ice chilled and insulated coolers (ice topped up as required) until transported to the analytical laboratory; and
- Chain of custody documentation was maintained at all times and countersigned by the receiving laboratory on transfer of samples.

7.9 Analytical Rationale

The analytical scheme was designed to obtain an indication of the potential presence and possible distribution of contaminants that may be attributable to past and present activities and features within the site, as discussed in Section 6 and DP (2017a).

EnviroLab Services Pty Ltd (EnviroLab) was used for the analysis of soil and groundwater samples. The laboratory is required to carry out routine in-house QC procedures.

Laboratory analytical methods as stated by EnviroLab are provided in the laboratory certificates of analysis in Appendix F and are summarised in the QA/QC section in Appendix D.

8. Site Assessment Criteria

It is understood that the development will comprise three car park basement levels, with the multi-storey buildings used for several purposes including council offices, library, community space, retail space, hotel and commercial offices (i.e. a mixed residential and commercial land use).

The site assessment criteria (SAC) for groundwater applied in the current investigation are informed by the CSM which identified human receptors to be exposed to potential contamination on the site. Given the proposed development, ecological receptors were not considered as a potential receptor in the CSM (Section 6), and therefore ecological investigation levels and ecological screening levels were not considered relevant for this assessment.

Analytical results were assessed (as a Tier 1 assessment) against the SAC comprising the investigation and screening levels of Schedule B1 NEPC (2013). The NEPC guidelines are endorsed by the NSW EPA under the CLM Act 1997. Petroleum based health screening levels for direct contact have been adopted from the *Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) Technical Report no.10 Health screening levels for petroleum hydrocarbons in soil and groundwater* (2011) as referenced by NEPC (2013). Additionally, analysis of PFAS in soil was assessed against the soil criteria for human health provided in Table 2 of *PFAS National Environmental Management Plan*, January 2018 (NEMP, 2018).

The investigation and screening levels are applicable to generic land use settings and groundwater receptors and include consideration of, where relevant, the soil type and the depth of contamination. The investigation and screening levels are not intended to be used as clean up levels. Rather, they establish concentrations above which further appropriate investigation (e.g. Tier 2 assessment) should be undertaken. They are intentionally conservative and are based on a reasonable worst-case scenario.

The investigation and screening levels for soil and groundwater in the current investigation comprise levels adopted for a residential with minimal opportunity for soil access land use scenario, as per Section 3.2.4 of Schedule B7, *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended 2013 (NEPC, 2013). Section 3.2.4 considers hotels as a more sensitive land use than commercial/ industrial, and therefore suggests considering a residential land use. Whilst DP would consider a commercial/industrial setting to be more appropriate, given the above a conservative approach was taken and a residential B land use was used as the investigation levels.

8.1 Soils

8.1.1 Health Investigation and Screening Levels

The Health Investigation Levels (HIL) and Health Screening Levels (HSL) are scientifically-based, generic assessment criteria designed to be used in the first stage (Tier 1) of an assessment of potential human health risk from chronic exposure to contaminants.

HILs are applicable to assessing health risk arising *via* all relevant pathways of exposure for a range of metals and organic substances. The HIL are generic to all soil types and apply generally to a depth of 3 m below the surface for residential use. Site-specific conditions may determine the depth to which HILs apply for other land uses.

HSLs are applicable to selected petroleum compounds and fractions to assess the risk to human health via inhalation and direct contact pathways. HSL have been developed for different land uses, soil types and depths to contamination.

The generic HIL and HSL are considered to be appropriate for the assessment of contamination at the site. Given the proposed land use the adopted HIL and HSL are:

- **HIL- B** – Residential with minimal opportunity for soil access; and,
- **HSL- A & B** – Residential.

In addition, the HSL adopted are predicated on the inputs summarised in Table 15.

Table 15: Inputs to the Derivation of HSLs

Variable	Input	Rationale
Potential exposure pathway	Soil vapour intrusion (inhalation)	Soil vapour intrusion is the potential pathway as direct contact is unlikely with a proposed basement covering the whole site.
Soil Type	Sand	The most conservative values (soil profile sand, sand encountered in some of the filling, however, predominately the filling was clay as indicated in Section 9).
Depth to contamination	0 m to <1 m	As three basement levels are proposed to cover the site and bulk excavation of fill material will be required for the basement, the depth of contamination will be minimal.

The adopted soil HIL and HSL for the potential contaminants of concern are presented in Table 16.

Table 16: Health Investigation and Screening Levels (HIL and HSL) in mg/kg Unless Otherwise Indicated

Contaminants		HIL- B	HSL- A&B Vapour Intrusion
Metals	Arsenic	500	-
	Cadmium	150	-
	Chromium (VI)	500	-
	Copper	30,000	-
	Lead	1200	-
	Mercury (inorganic)	730	-
	Nickel	120	-
	Zinc	60,000	-
PAH	Benzo(a)pyrene TEQ ¹	4	-
	Naphthalene	-	3
	Total PAH	400	-
TRH	C6 – C10 (less BTEX) [F1]	-	45
	>C10-C16 (less Naphthalene) [F2]	-	110
	>C16-C34 [F3]	-	-
	>C34-C40 [F4]	-	-
BTEX	Benzene	-	0.5
	Toluene	-	160
	Ethylbenzene	-	55
	Xylenes	-	40
Phenol	Pentachlorophenol (used as an initial screen)	130	-
OCP	Aldrin + Dieldrin	10	-
	Chlordane	90	-
	DDT+DDE+DDD	600	-
	Endosulfan	400	-
	Endrin	20	-
	Heptachlor	10	-
	HCB	15	-
	Methoxychlor	500	-
OPP	Chlorpyrifos	340	-
PFAS ²	Perfluorooctane Sulfonate (PFOS)	2	
	Perfluorooctanoic Acid (PFOA)	20	
PCB ³		1	
VOC		Laboratory reporting limit (LRL) as initial screening concentration. Reference to national or international standards above the LRL.	

Notes:

1 sum of carcinogenic PAH 2. Based on Table 2 of PFAS NEMP (2018). 3. non dioxin-like PCBs only.

8.1.2 Management Limits – Petroleum Hydrocarbons

In addition to appropriate consideration and application of the HSL and ESL, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services.

Management Limits to avoid or minimise these potential effects have been adopted in NEPC (2013) as interim Tier 1 guidance. Management Limits have been derived in NEPC (2013) for the same four petroleum fractions as the HSL (F1 to F4). The adopted Management Limits, from Table 1B(7), Schedule B1 of NEPC (2013) are shown in the following Table 17. The following site specific data and assumptions have been used to determine the Management Limits:

- the Management Limits will apply to any depth within the soil profile;
- the Management Limits for residential, parkland and public open space apply;
- A “coarse” soil texture has been adopted.

Table 17: Management Limits in mg/kg

Analyte		Management Limit
TRH	C ₆ – C ₁₀ (F1) #	700
	>C ₁₀ -C ₁₆ (F2) #	1000
	>C ₁₆ -C ₃₄ (F3)	2500
	>C ₃₄ -C ₄₀ (F4)	10,000

Separate management limits for BTEX and naphthalene are not available hence these have not been subtracted from the relevant fractions to obtain F1 and F2

8.1.3 Asbestos in Soil

Bonded asbestos-containing material (ACM) is the most common form of asbestos contamination across Australia, generally arising from:

- Inadequate removal and disposal practices during demolition of buildings containing asbestos products;
- Widespread dumping of asbestos products and asbestos containing fill on vacant land and development sites; and
- Commonly occurring in historical fill containing unsorted demolition materials.

Mining, manufacturing or distribution of asbestos products may result in sites being contaminated by friable asbestos including free fibres. Severe weathering or damage to bonded ACM may also result in the formation of friable asbestos comprising fibrous asbestos (FA) and/or asbestos fines (AF).

Asbestos only poses a risk to human health when asbestos fibres are made airborne and inhaled. If asbestos is bound in a matrix such as cement or resin, it is not readily made airborne except through substantial physical damage. Bonded ACM in sound condition represents a low human health risk, whilst both FA and AF materials have the potential to generate, or be associated with, free asbestos fibres. Consequently, FA and AF must be carefully managed to prevent the release of asbestos fibres into the air.

NEPC (2013) defines the various asbestos types referred to above as follows:

- Bonded ACM:** Asbestos containing material which is in sound condition, bound in a matrix of cement or resin, and cannot pass a 7 mm x 7 mm sieve.
- FA:** Fibrous asbestos material including severely weathered cement sheet, insulation products and woven asbestos material. This material is typically unbonded or was previously bonded and is now significantly degraded and crumbling.
- AF:** Asbestos fines including free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

Health Screening Levels (HSL) for asbestos in soil, which are based on likely exposure levels for different scenarios, have been adopted in NEPC (2013) from the Western Australian Department of Health (WA DoH) publication *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia 2009* (WA DoH 2009).

On the basis of the proposed mixed residential and commercial land use, and in accordance with Table 7, Schedule B1, NEPC (2013) the following asbestos HSL have been adopted:

Table 18: Health Screening Levels for Asbestos Contamination in Soil (% w/w)

Form of Asbestos	HSL B
Bonded ACM	0.04%
FA and AF	0.001 %
All Forms of Asbestos	No visible asbestos for surface soil

It is noted that the asbestos investigation was only undertaken as an initial screen at the specific sample locations, therefore asbestos ID samples (laboratory reporting limit (LRL) of 0.1 g/kg) were primarily undertaken. AF/FA sample analysis were analysed from sample locations where asbestos had been observed (i.e. TP103 and TP104) and adjacent test pits.

The asbestos assessment was not a detailed assessment in accordance with NEPC (2013).

8.2 Groundwater

The primary potential receptors of impacted groundwater are expected to be site users and the Georges River (freshwater) to the north-east of the site.

8.2.1 Groundwater Investigation Levels

The Groundwater Investigation Levels (GIL) adopted in NEPC (2013) are based on:

- *Guidelines for Managing Risk in Recreational Waters* 2008 (GMRRW);
- *Australia & New Zealand Guidelines for Fresh and Marine Water Quality* 2018 (ANZG).

Other referenced documents to establish screening levels for this assessment include:

- *PFAS National Environmental Management Plan*, January 2018 (NEMP, 2018); and
- *US EPA, Regional Screening Levels (RSL)- Summary Table*, May 2016 (USEPA).

The adopted GIL for the analytes included in the assessment (where applicable), and the corresponding source documents, are shown in Table 19.

The NEPC (2013) GILs have been updated since the previous investigation (DP, 2017b), including ANZG 2018, and therefore the results from the previous investigation (DP, 2017b) and the current investigation have been compared against the updated GILs.

Given the receiving water body is the Georges River which is fresh water, the GIL adopted from Table 1C: Groundwater Investigation Levels of the NEPC (2013) with respect to potential impact on the environment is therefore for the protection of freshwater species. The adopted GILs with respect to human health have been adopted from NEPC (2013) Table 1A (4): Groundwater HSLs for Vapour Intrusion from the NEPC (2013). Based on the subsurface observations from the current and previous monitoring rounds, parameters to derive the vapour intrusion criteria are a sand subsurface profile with groundwater typically between 2 - 4 m bgl.

As no groundwater bores were found within 500 m of the site (Section 5), and human ingestion is not considered a potential receptor for groundwater contamination (Section 6), the ADWG (2011) are not considered to be relevant comparative criteria for this investigation.

Additionally, given the Georges River has been identified as the nearest receptor for ground and surface water from the site, it is necessary to identify the disturbance level of the ecosystem in order to determine the level of protection and guidelines required for assessing water quality.

According to ANZG (2018) *highly disturbed ecosystems* are defined as measurably degraded ecosystems of lower ecological value, including shipping ports and sections of harbours serving coastal cities, urban streams receiving road and stormwater runoff, or rural streams receiving runoff from intensive horticulture.

Slightly to moderately disturbed ecosystems are defined as ecosystems in which aquatic biological diversity may have been adversely affected to a relatively small but measurable degree by human activity. The biological communities remain in a healthy condition and ecosystem integrity is largely retained. In the case of freshwater systems, this would typically comprise of slightly to moderately cleared catchments or reasonably intact riparian vegetation. For example, rural streams receiving runoff from land disturbed to varying degrees by grazing or pastoralism.

The Georges River is located in an urban environment receiving stormwater runoff from road networks and the local residential and industrial areas. A comparison of 1943 and current aerial photographs (Figure 2) indicate that the Georges River has undergone some changes, particularly directly to the east of the site, where water has collected near the industrial area. These factors indicate that the creek is not in its natural state and most likely considered a highly disturbed ecosystem according to the ANZG (2018) definitions. In this case, the 90% levels of protection (LOP) would be considered as suitable assessment criteria.

However, in setting a management goal with an intent to improve the water quality in the Georges River, a conservative approach has been undertaken for this assessment and a 95% LOP has been applied.



Figure 2: The 1943 (left) and current (right) aerial photograph of the surrounding area, including the Georges River.

Table 19: Groundwater Investigation Levels (in µg/L unless otherwise stated)

Analyte		NEPC (2013) Fresh Waters ^b
Metals	Arsenic (V)	13
	Cadmium	0.2 ^c
	Chromium (VI)	0.4 ^c
	Copper	1.4 ^c
	Lead	3.4 ^c
	Mercury (total)	0.6
	Nickel	11 ^c
	Zinc	8 ^c
PAH	Naphthalene	16
	Benzo(a)pyrene	-
BTEX	Benzene	-
	Toluene	-
	Ethylbenzene	-
	Xylene (o)	350
	Xylene (p)	200
	Xylenes (Total)	-
Phenols	Phenol	320
OCP	Chlordane	0.08
	DDT	0.01
	Endosulfan	0.2
	Endrin	0.02
	Heptachlor	0.09
	Aldrin + Dieldrin	-
	Lindane	0.2
	Heptachlor Epoxide	-
PCB	Aroclor 1242	0.6
	Aroclor 1254	0.03
VOC	Chloroform	370
	Bromodichloromethane ^d	80
PFAS ^e	Perfluorooctane Sulfonate (PFOS)	0.13
	Perfluorooctanoic Acid (PFOA)	220

Notes:

- a In cases where no high reliability trigger values are provided, the low reliability trigger values provided in ANZG (2018) have been used as screening levels
- b Investigation levels apply to typically slightly-moderately disturbed systems, with a 95% level of protection
- c Criteria for metals have been hardness adjusted for moderately hard water (hardness of samples between 60-119 mg/L as CaCO₃)
- d Screening criteria adopted from US EPA. 80 µg/L refers to maximum contaminant limit.
- e Screening criteria adopted from PFAS NEMP (2018) for slightly-moderately disturbed ecosystem, 95% level of protection.

8.2.2 Health Screening Levels – Petroleum Hydrocarbons

The generic HSL are considered to be appropriate for the assessment of contamination at the site. In addition, the HSL adopted is predicated on the following inputs prescribed in Table 20.

Table 20: Inputs to the Derivation of HSLs

Variable	Input	Rationale
Land-use	Residential	Proposed development's most sensitive land use
Potential exposure pathway	Groundwater vapour intrusion (inhalation)	Potential for vapour intrusion into new dwellings
Soil type	Sand	The most conservative values (soil profile sand, sand encountered in some of the filling, however, predominately the filling was clay).
Depth to contamination	2 m to < 4 m	As the proposed development includes up to three basement levels, it is likely the depth of contamination will be minimal, therefore the most conservative values have been adopted.

The site specific groundwater HSL for vapour intrusion, are shown in the following Table 21.

Table 21: Groundwater Health Screening Levels (HSL) for Vapour Intrusion (µg/L)

Analyte		HSL-A & B 2 m to <4 m
TRH	C ₆ – C ₁₀ (less BTEX) [F1]	1000
	>C ₁₀ -C ₁₆ (less Naphthalene) [F2]	1000
BTEX	Benzene	800
	Toluene	NL
	Ethylbenzene	NL
	Xylene	NL
PAH	Naphthalene	NL

Note: NL -The solubility limit is defined as the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture. The soil vapour which is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the water solubility limit, a soil-vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for a given scenario. For these scenarios no HSL is presented for these chemicals. These are denoted as not limiting 'NL'.

8.3 Soils- Waste Classification Criteria

Given the proposed development requires bulk excavation of spoil material, a preliminary waste classification was undertaken to assess the material for off-site disposal purposes. The waste classification assessment was undertaken in accordance with the six step process outlined in the EPA (2014).

The soil results were assessed against the general solid waste criteria (GSW) outlined in Tables 1 and 2 of the guidelines. For waste classification of PFAS in soils reference was made to the NSW EPA October 2016 addendum to EPA (2014).

With respect to the natural materials at the site, these are also assessed for their potential classification as VENM. In this regard the NSW EPA defines VENM as:

- *"natural material (such as clay, gravel, sand, soil or rock fines):*
- *that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or process residues, as a result of industrial, commercial, mining or agricultural activities; and*
- *that does not contain any sulfidic ores or soils or any other waste; and*
- *includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the NSW Government Gazette."*

For the purpose of providing screening criteria to compare laboratory results against for assessing VENM, DP have compared the results from the natural soils to background concentrations published in ANZECC/NHMRC (1992) *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites, Environmental Soil Quality Guidelines* Background A [ANZECC A]. In the case of organics where no reference values exist the LRL has been adopted as the screening level.

9. Results of Investigation

9.1 Field Observations

Details of the subsurface conditions encountered in the investigation are given in the test bore and test pit logs in Appendix E, together with notes defining classification methods and descriptive terms.

The sequence of subsurface materials encountered within the test bores and test pits, in increasing depth order, may be summarised as follows:

- Asphalt/Concrete:** Asphalt was present in BH1 and BH3-6 up to 0.05 m thick. BH7, BH8, BH201 and BH202 encountered concrete at thicknesses between 0.1 m and 0.2 m;
- Fill (roadbase):** Grey sandy gravel roadbase fill was observed in BH1 and BH3-6 to depths between 0.1 and 0.4 m bgl;
- Fill:** Fill composition was variable across the site and comprised, grey and brown silty clay, clayey sand, gravelly sand, sandy gravel and shale gravel to depths of between 0 and 1 m bgl. Glass fragments were encountered in BH4, BH101, TP104 and TP105. Building rubble (such as brick, tile, terracotta and plastic fragments) were observed in BH6, BH8, BH9 and BH201, as well as in all test pits. Asbestos containing material was observed in TP103 and TP104. It is noted that BH4-6 and TP105 encountered refusal within the filling;
- Natural Soils:** Stiff to very stiff brown, red-brown and grey silty clays with trace to some gravel was encountered in BH2, BH 7-9, BH201-202, and TP101 and TP102 from depths between 0.25 m and 1.2 m bgl; and
- Bedrock:** Extremely low strength, extremely weathered grey and brown shale was encountered in BH1-3 and BH9 at depths between 0.4 m and 2.5 m. Higher strength laminite and sandstone was encountered at deeper depths.

There were no signs of gross chemical contamination (e.g. odours or staining), however, asbestos containing material was observed in TP103 and TP104 during fieldwork.

Following well development groundwater was observed at levels between 14.9 m and 20.9 m AHD (refer to Table 22 below). Based on these results, groundwater flow is anticipated in a north to north-easterly direction. One or two additional wells would be required for triangulation to confirm groundwater flow direction, however, it is understood such information is not required for the project at this time.

The stabilised groundwater field parameters recorded prior to sampling are summarised in Table 22.

Table 22: Stabilised Groundwater Field Parameters

Groundwater Well and Sample Date	RL (m AHD)	Depth to Groundwater (m bgl)	Groundwater RL (m AHD)	pH	Electrical Conductivity (µS/cm)	Redox (mV)	Temperature (°C)	Dissolved Oxygen (ppm)
1 (19/8/16)	23.1	5.1	18	7.56	1489	121	21.6	5.78
1 (1/9/16)	23.1	4.8	18.3	7.17	6310	117	22.7	0.93
2 (19/8/16)	23.6	8.7	14.9	-	-	-	-	-
2 (1/9/16)	23.6	6.7	16.9	-	-	-	-	-
1 (22/3/19)	23.1	2.2	20.9	-	-	-	-	-
2 (22/3/19)	23.6	4.2	19.4	-	-	-	-	-
2 (26/3/19)	23.6	6.3	17.3	7.2	3011	164	23.8	3.51

9.2 Field Testing Results

Replicate soil samples collected in plastic bags were allowed to equilibrate under ambient temperatures before screening for Total Photo-ionisable Compounds (TOPIC) using a calibrated photo-ionisation detector (PID). The PID readings were all <5 ppm, consistent with the field observations noted above (and the laboratory results, refer to Sections 9.3 and 10).

9.3 Laboratory Results

The results of the soil and groundwater laboratory analysis undertaken are summarised and presented in Table G1: Summary of Groundwater Laboratory Results and Table G2: Summary of Soil Laboratory Results, in Appendix G.

The laboratory certificates together with the chain of custody and sample receipt information are also presented in Appendix F.

10. Discussion of Results

10.1 Groundwater Results

Groundwater laboratory results for BH1 recorded generally low concentrations of contaminants with all results for BTEX, TRH, VOC, PAH, OCP, PCB and phenols below laboratory reporting limits (LRL). All results were below the adopted GILs.

Results of the groundwater laboratory analysis for BH2 recorded all results for BTEX, TRH, PAH, OCP, PCB and phenols below LRL. Low concentrations of chloroform and bromodichloromethane were detected during both rounds of sampling undertaken in 2016, although it is noted that these results were well below the adopted screening values and may have been associated with the use of

mains water during the rock coring. PFAS was also detected at low concentrations during the 2016 and 2019 rounds of sampling and was also well below the adopted screening criteria.

Elevated concentrations for arsenic (53 µg/L), nickel (29 µg/L) and copper (2 µg/L) were detected in BH2 from the first sampling event (19 October 2016). Accordingly, the well was re-sampled on 1 September 2016 to confirm the initial results. The second round of sampling recorded generally lower levels of heavy metals, with the exception of a slight increase in zinc, and was considered to be more reflective of site conditions given the time elapsed since drilling and the results being more consistent with the results from BH1. The third round of sampling of BH2 during the current investigation reported similarly low concentrations of metals, consistent with the second round of sampling results.

Elevated concentrations of copper were observed ranging between 2 and 4 µg/L across the bores and sampling events, exceeding the ANZG (2018) for fresh water (1.4 µg/L). These elevated metal concentrations are likely due to diffuse sources, probably resulting from service leakage and road runoff and represent typical ambient background concentrations present in the urban environment.

Given this, the initial results were not considered to be of significance or of concern from a landuse suitability perspective.

10.2 Soil

10.2.1 Site Suitability

Soil laboratory results were compared against the site assessment criteria (SAC) to determine the suitability of the soils to remain onsite.

Reported concentrations of BTEX, OCPs, OPPs, PCBs, phenols and PFAS were below the LRL for all soil samples.

Reported concentrations of metals, PAH, TRH and PFAS in some samples were above the LRL but remained below the SAC for the site.

Asbestos was detected in a material sample (A1) collected from TP103. This material sample was consistent with the asbestos containing material observed in TP104.

10.2.2 Waste Classification Results

In total 25 soil samples were analysed for waste classification purposes and recorded generally low levels of contaminants with all results for BTEX, OCP, OPP, PCB and phenols below LRL. PFAS was recorded in TP01 and TP02 at very low concentrations (0.001 to 0.006 mg/kg) whilst TCLP concentrations in these samples recorded PFAS results below the LRL of 0.1 mg/L

Heavy metals were recorded in all samples, generally at low levels, with the exception of the following samples which exceeded the GSW (CT1) criteria:

- Lead in samples BH6/0.5-0.6 (150 mg/kg), BH201/ 0.2-0.25 (210 mg/kg) and TP104/0.6-0.7 (470 mg/kg); and
- Nickel in sample BH1/0.1-0.2 (43 mg/kg).

Benzo(a)pyrene (B(a)P) was reported in some samples, generally at low concentrations, with the exception of two samples (TP101/0-0.1 (1 mg/kg) and TP102/0.4-0.5 (3/7 mg/kg)) which exceeded the GSW (CT1) criteria.

Consequently, TCLP for lead, nickel and B(a)P was undertaken on the respective samples for waste classification purposes. The analysis confirmed low leaching characteristics for the contaminants in the samples analysed, with the results reported within the SCCI and TCLP1 criteria.

Screening for asbestos did not record concentrations above the LRL of 0.1 g/kg. Asbestos was, however, detected in a material sample (A1) collected from TP103.

Given the initial arsenic concentration recorded in the groundwater sample from BH2 in 2016, four rock samples were also analysed for arsenic (one from above the water table and one from below the water table for in each of BH1 and BH2). These recorded concentrations between <4 mg/kg and 9 mg/kg which are considered to be within natural background ranges, thereby indicating that arsenic in the groundwater had not impacted on the rock at the sample location.

In summary, all samples from the natural soils were within naturally occurring background ranges. Samples from the filling (when TCLP results were adopted) were all within the criteria for GSW (non-putrescible). The fill material in the vicinity of TP103 and TP104 where asbestos was observed is preliminarily classifiable as Special Waste (Asbestos), GSW. Asbestos may be present but undetected in fill materials in other areas of the site.

11. Discussion and Recommendations

Based on the review of the site history information, the site has historically been used for residential purposes, progressively transitioning to commercial land uses during the late 20th century and early 21st century. The main contamination risks from the site are considered to be associated with the site's use prior to this development, namely the presence of a fire station in the north-eastern corner of the site and the spreading of potentially hazardous building materials, in particular asbestos, during demolition of the former structures.

Sampling results of the soils reported low contaminant concentrations, below the SAC. Remediation is therefore not required for the soil to remain on site, or prior to earthworks, with the exception of the fill in the southern half of the vacant lot where asbestos was observed to be present in TP103 and TP104. The fill within this area will require remediation.

It should be noted that as building rubble (including glass, brick and tile fragments, and which can be an indicator for the presence of asbestos) has been observed on the surface and in the fill in other parts of the site, there is potential for further asbestos to be encountered during excavation of fill in other parts of the site which have not been tested or between or adjacent to previous sampling locations.

With regard to groundwater on site, sampling results from both the previous and current sampling rounds indicate that there is no apparent significant impact on the groundwater quality from current or previous site (and adjacent) land uses, although traces of PFAS are present, which may indicate some residual effects from the operation of the former fire station.

Some potential exists for heavy metals to enter the groundwater when soils are disturbed (as indicated by the results from the first round of sampling) and that low concentrations of PFAS, chloroform and bromodichloromethane may also be encountered in the groundwater. However, given the generally low concentrations of soil contaminants, the groundwater is not considered likely to be significantly impacted.

If groundwater disposal (dewatering) is required during works then treatment may be required prior to disposal. It is recommended that groundwater disposal requirements are confirmed with Council prior to commencing works.

The filling is provisionally classified as GSW (non-putrescible), and GSW, Special Waste (Asbestos) in the vicinity of TP103 and TP104. Confirmation of this classification (including sampling) for the filling under the building slabs (including beneath the buried slab located at the southern end of the vacant lot) would need to be undertaken post removal of the buildings and prior to spoil disposal. Additionally, the vertical and lateral extent of asbestos contamination around TP103 and TP104 will need to be determined prior to bulk earthworks commencing.

The natural soils and rock are provisionally classified as VENM.

Therefore, on the basis on the above the site can be made suitable subject to the following:

- A Remediation Action Plan (RAP) and/ or Asbestos Management Plan (AMP) will need to be developed prior to the commencement of bulk earthworks to inform appropriate management of asbestos contaminated soils;
- Development of an unexpected finds protocol prior to commencing works to address any materials of concern that may be encountered during excavation (including odours, staining or underground storage tanks); and
- A hazardous building materials survey is undertaken prior to demolition of the existing buildings with subsequent appropriate (legal) removal, disposal and clearance of any hazardous building materials.

12. Conclusions

Field observations and laboratory results indicate no significant widespread chemical contamination of the soil and groundwater and that the risks of on-site or off-site impacts are therefore considered minimal. Following confirmation of the waste classification for the soils under the existing building (including sampling), and appropriate management of asbestos contaminated soils under a RAP and/or AMP, then off-site disposal of soils to a suitably licensed facility can be undertaken which will enable the site to be made suitable for the proposed development.

13. Limitations

Douglas Partners (DP) has prepared this report (or services) for this project at 52 Scott Street, Liverpool in accordance with DP's proposal SYD190276 dated 14 March 2019 and acceptance received from Jono Cottee of Built Development Group Pty Ltd dated 15 March 2019. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Built Development Group for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Asbestos has been detected by observation and by laboratory analysis in filling materials in TP103 and TP104. However, building demolition materials, such as brick, tile, terracotta, plastic and glass fragments, were observed in the other test pits and boreholes, as well as on the surface around the site. These materials are considered to be indicators of the possible presence of hazardous building materials (HBM), including asbestos in other areas of the site.

Although the sampling plan adopted for this investigation is considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been sampled and analysed. This is either due to undetected variations in ground conditions or to parts of the site being inaccessible and not available for inspection/sampling. The presence of vegetation in the vacant lot also prevented a thorough visual inspection of the surface. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present beyond those presently identified.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP. DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards contained in the Comments section of this report, as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the (geotechnical / environmental / groundwater) components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

Douglas Partners Pty Ltd

Appendix A

[Drawing](#)

[About this Report](#)



Legend

- Tespit Locations
- Borehole Locations
- Previous Sample Locations (DP, 2017b)
- Site Boundary

About this Report

Douglas Partners



Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix B

Site Photographs



Photograph 1 (2016) - Looking West Along Scott Street at Site (northern boundary)



Photograph 2 (2016) - Looking West Along Terminus Street at Car Park (southern boundary)



Photograph 3 (2016) - Eastern Site Boundary and Adjacent Vacant Lot



Photograph 4 (2016) - New Building Constructed on Property to the West



Site Photographs

Proposed Multi-storey Development

52 Scott Street, Liverpool

CLIENT: Built Development Group Pty Ltd

PROJECT: 85594.02

PLATE No: B2

REV: A

DATE: 2-Apr-19



Photograph 5 (2016) - Car Service Centre/Mechanic to the South-West



Photograph 6 (2016) - Looking West from Loading Dock Towards Car Service Centre/Mechanic



Photograph 7 (2016) - Looking East Towards Loading Dock



Photograph 8 (2016) - Looking West Across Ground Floor Car Park



Site Photographs

Proposed Multi-storey Development

52 Scott Street, Liverpool

CLIENT: Built Development Group Pty Ltd

PROJECT: 85594.02

PLATE No: B4

REV: A

DATE: 2-Apr-19



Photograph 9 (2016) - Looking West Across Northern Section of Car Park (above commercial space)



Photograph 10 (2016) - Looking at Air Conditioning Units Located in the Middle (eastern) Section of the Site

 Douglas Partners Geotechnics Environment Groundwater	Site Photographs Proposed Multi-storey Development 52 Scott Street, Liverpool	PROJECT: 85594.02
		PLATE No: B5
		REV: A
		CLIENT: Built Development Group Pty Ltd
		DATE: 2-Apr-19



Photograph 11 (2019) - Vacant lot, facing north



Photograph 12 (2019) - Rubbish and building material located in the garden bed in the car park, at the rear of the sports shop



Site Photographs

Proposed Multi-storey Development

52 Scott Street, Liverpool

CLIENT: Built Development Group Pty Ltd

PROJECT: 85594.02

PLATE No: B6

REV: A

DATE: 2-Apr-19



Photograph 13 (2019) - Sports shop located on the north eastern corner of the site.



Photograph 14 (2019) - Interior of the sports shop.

Appendix C

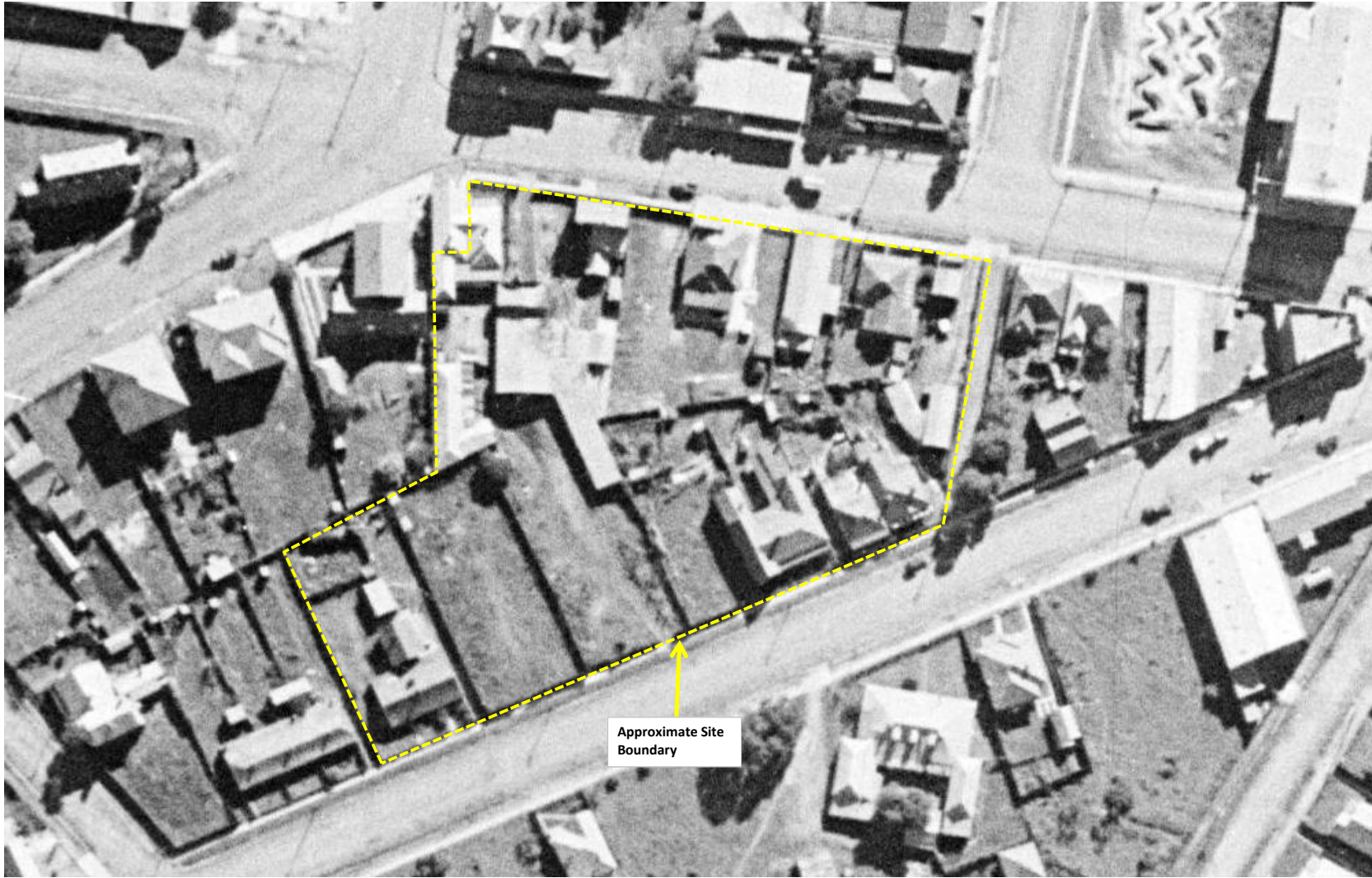
Aerial Photographs

Historical Titles

SafeWork Letter

And Section 10.7 (and 149) Planning Certificates





Approximate Site
Boundary



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

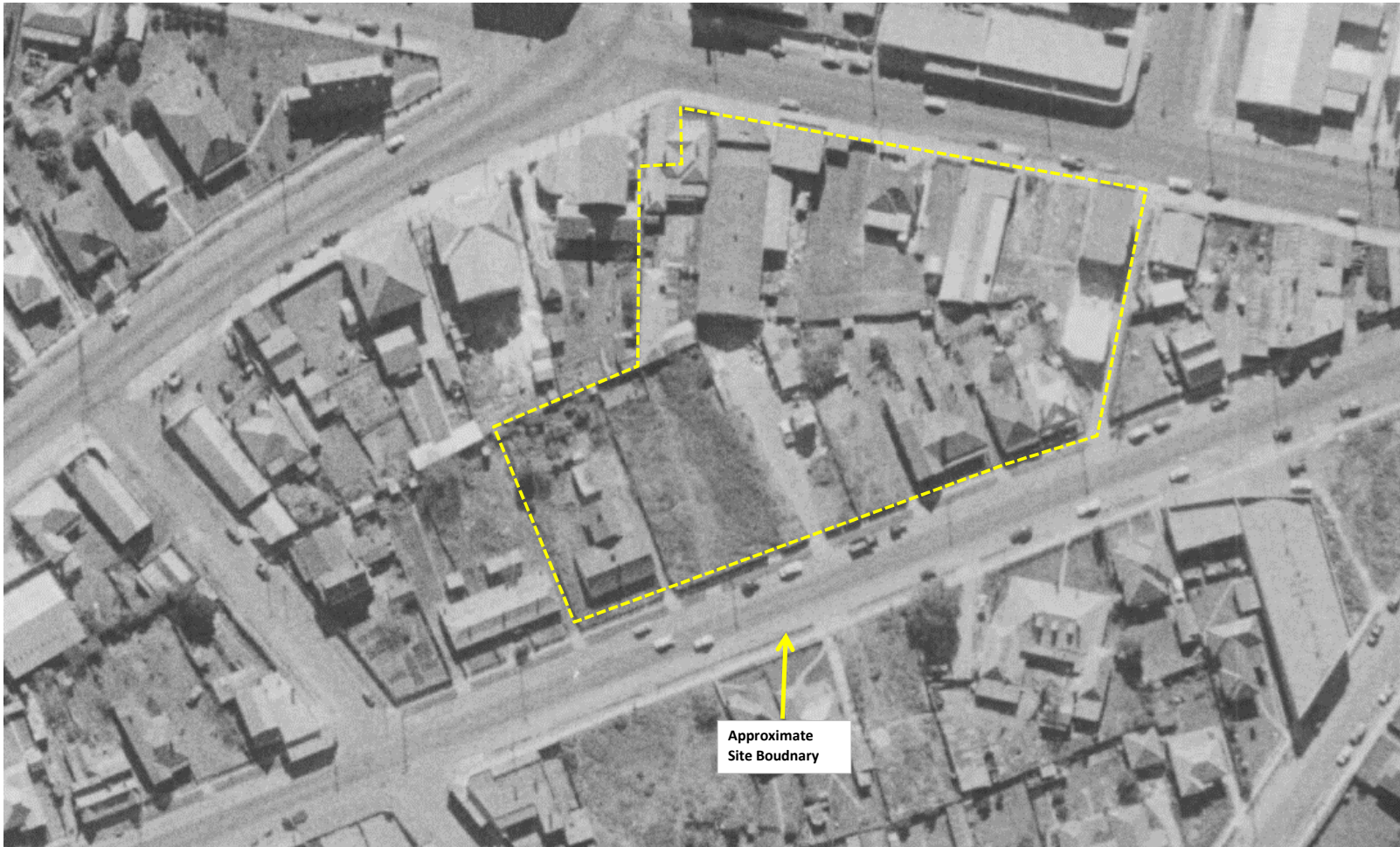
TITLE: Aerial Photograph - 1943

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C2

REVISION: A



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

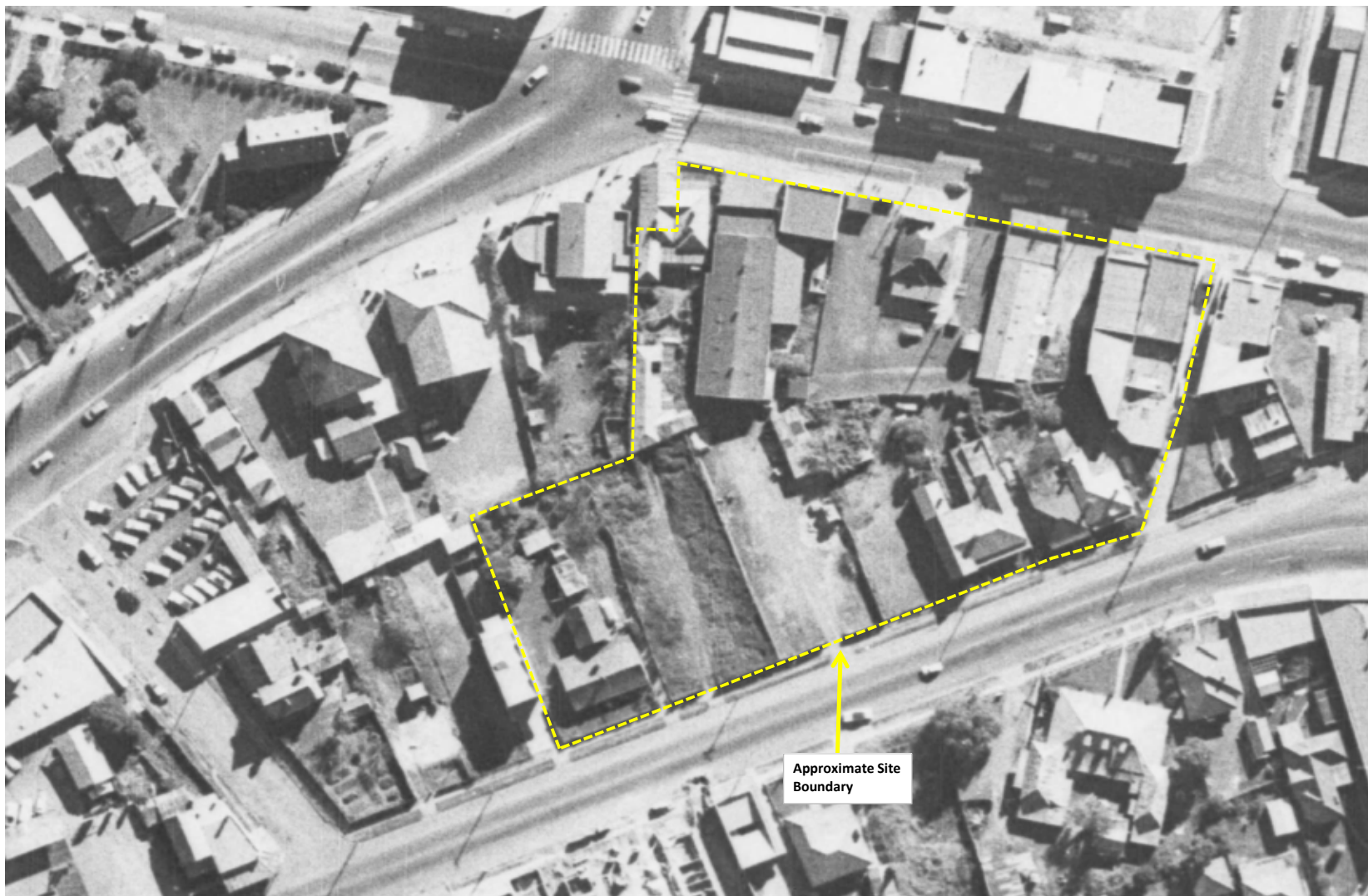
TITLE: Aerial Photograph - 1955

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C3

REVISION: A



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

TITLE: Aerial Photograph - 1961

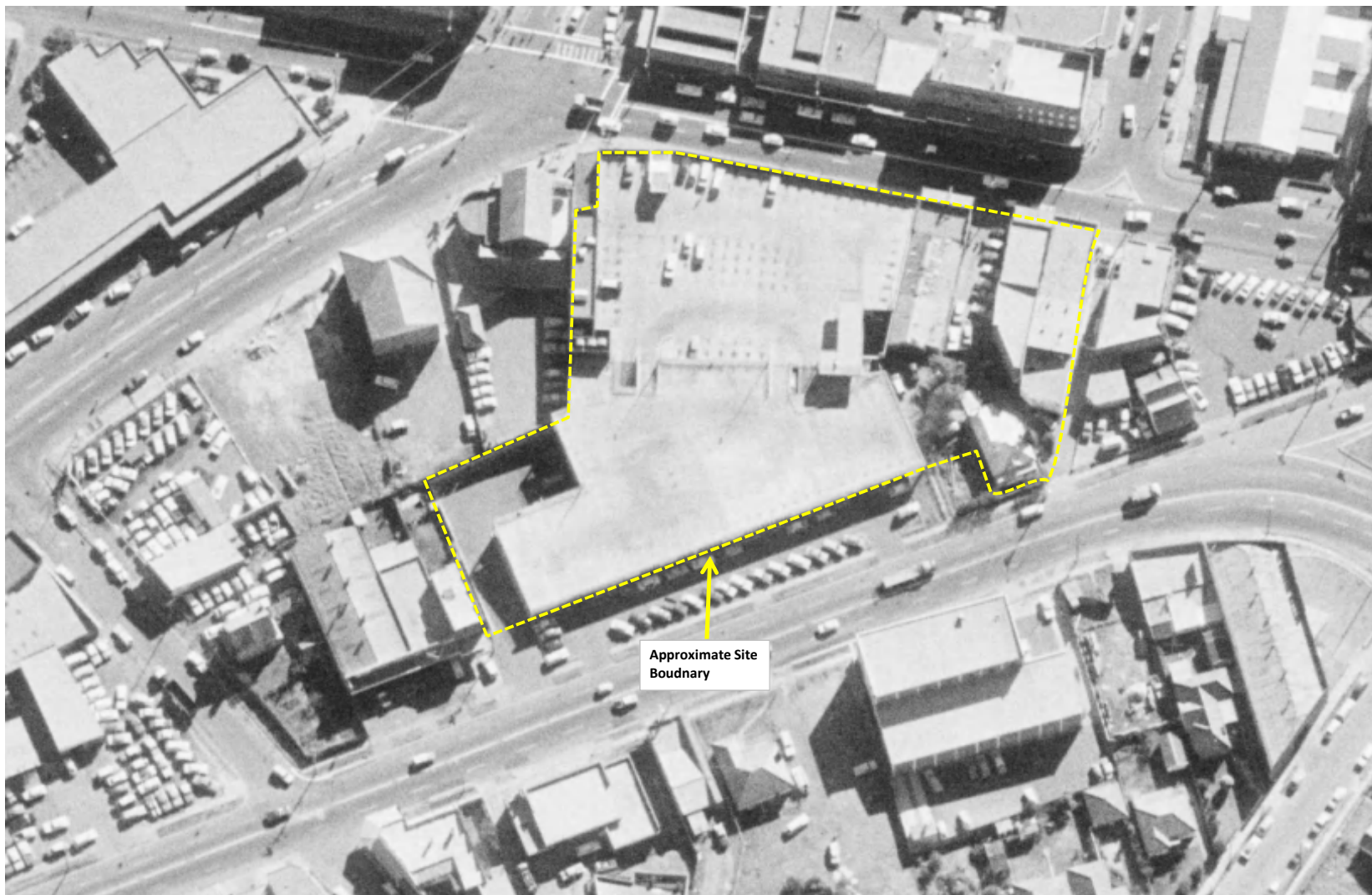
Proposed Multistorey Development, Liverpool Civic Place

52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C4

REVISION: A



Approximate Site
Boundary

↑
N



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

TITLE: Aerial Photograph - 1970

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C5

REVISION: A



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

TITLE: Aerial Photograph - 1986

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C6

REVISION: A



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

TITLE: **Aerial Photograph - 1994**

**Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool**

PROJECT No: 85594.02

DRAWING No: C7

REVISION: A



CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

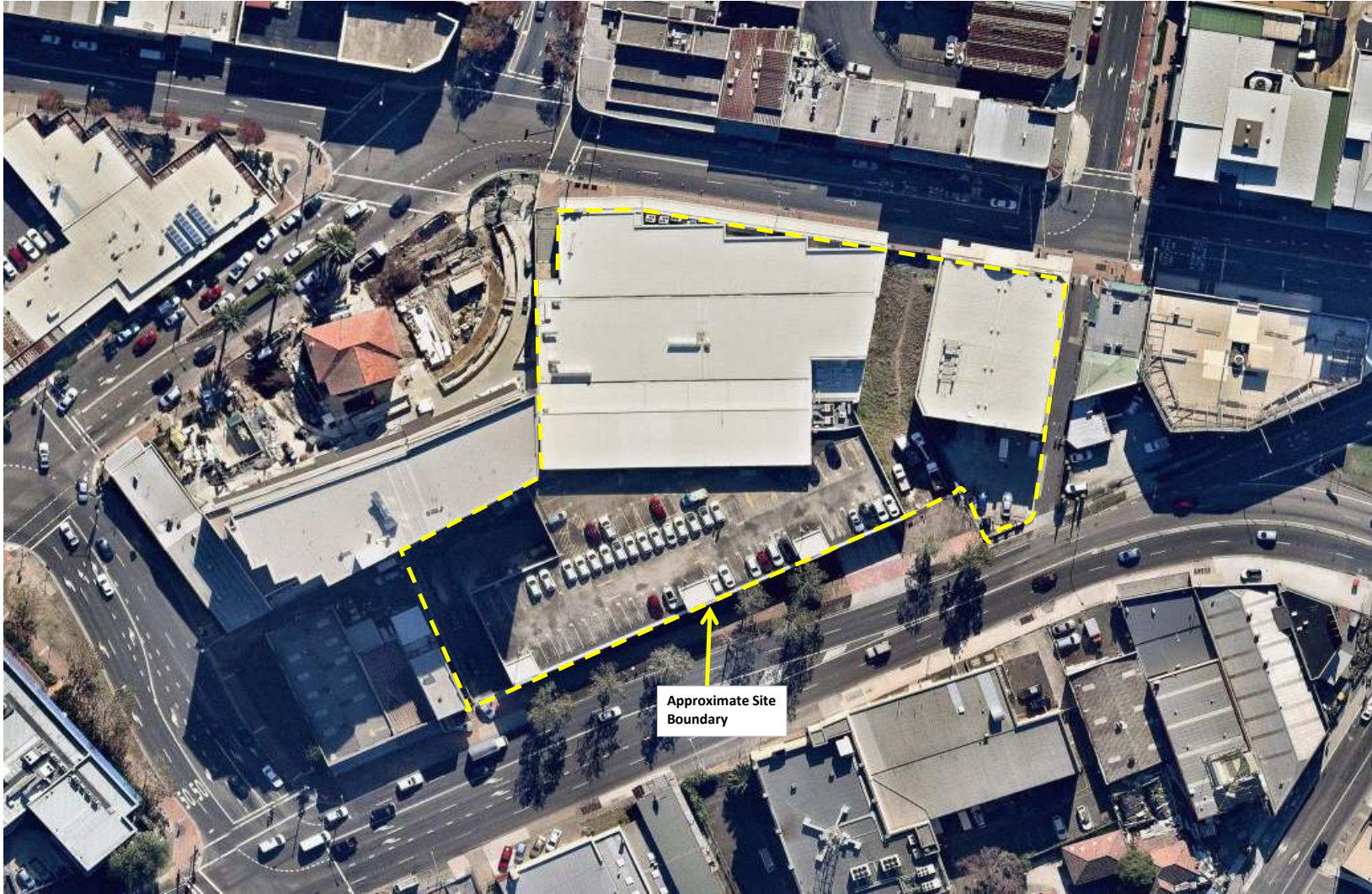
TITLE: Aerial Photograph - 2005

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C8

REVISION: A





CLIENT: Built Development Group Pty Ltd

OFFICE: Sydney

DRAWN BY: NW

SCALE: NTS

DATE: 22/3/2019

TITLE: Aerial Photograph - 2018

Proposed Multistorey Development, Liverpool Civic Place
52 Scott Street, Liverpool

PROJECT No: 85594.02

DRAWING No: C10

REVISION: A

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Level 14, 135 King Street, Sydney
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DX 967 Sydney

Summary of Owners Report

LPI

Sydney

Address: - 52 Scott Street, Liverpool

Description: - Lots 1 to 3 D.P. 229979, Lot 17 D.P. 81842

Also

Part Lots 22 & 23 D.P. 441010 and Lot 1 D.P. 507070

As regards Lot 3 D.P. 229979

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
08.01.1902 (1902 to 1965)	Minister for Public Works (Site for Fire Station)	Book 703 No. 737
16.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Book 2748 No. 877
17.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Book 2749 No. 303
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Book 2755 No. 5 Now Vol 10665 Fol 221
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 10665 Fol 221
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 10665 Fol 221 Now 3/229979
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	3/229979
04.10.2011 (2011 to date)	# Council of the City of Liverpool	3/229979

Denotes Current Registered Proprietor

Easements: - NIL

Leases, excluding building premises: -

- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

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As regards Lot 17 D.P. 81842

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
12.05.1913 (1913 to 1965)	Board of fire Commissioners of New South Wales	Book 996 No. 900 Now Vol 4649 Fol 238
16.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Vol 4649 Fol 238
17.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Vol 4649 Fol 238
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Vol 4649 Fol 238
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 4649 Fol 238
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 4649 Fol 238 Now 17/81842
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	17/81842
04.10.2011 (2011 to date)	# Council of the City of Liverpool	17/81842

Denotes Current Registered Proprietor

Easements: - NIL

Leases, excluding building premises: -

- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

As regards part Lot 22 D.P. 441010 (residue after road in D.P. 446163)

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
15.09.1882 (1882 to 1947)	Bank of New South Wales	Book 255 No. 436
20.06.1947 (1947 to 1950)	Richard Arthur Wicks (Bank Officer) Thelma Lucy Wicks (Married Woman)	Book 2021 No. 993
23.12.1950 (1950 to 1951)	Stephanie Genevieve Hosford (Married Woman)	Book 2159 No. 930
01.06.1951 (1951 to 1954)	Delbourg Corporation Pty Limited	Book 2179 No. 921 Now Vol 6862 Fol 92
14.01.1954 (1954 to 1956)	Samuel Salvatore Dimarco (Radio Dealer)	Vol 6862 Fol 92
23.08.1956 (1956 to 1965)	Guiseppe Caristo (Boot Maker)	Vol 6862 Fol 92 Now Vol 7497 Fol 231
29.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Vol 7497 Fol 231

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Search continued as regards part Lot 22 D.P. 441010 (residue after road in D.P. 446163)

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Vol 7497 Fol 231
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 7497 Fol 231
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 7497 Fol 231 Now 22/441010
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	22/441010
04.10.2011 (2011 to date)	# Council of the City of Liverpool	22/441010

Denotes Current Registered Proprietor

Easements: -

- 23.02.1968 (L 18000) Easement for Electricity Mains four feet wide (defined in D.P. 1136120)
- 29.03.2012 (D.P. 1136120 & AG 834335) Easement for Underground Cables 1.72 wide

Leases, excluding building premises: -

- 23.10.1968 to Prospect County Council, of the room alongside the truck dock, the level below the car park, together with rights – now expired
- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- 17.07.1989 to Prospect County Council, of substation premises No. 1 – now expired
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

As regards part Lot 23 D.P. 441010 (residue after road in D.P. 446163)

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
15.09.1882 (1882 to 1947)	Bank of New South Wales	Book 255 No. 436
20.06.1947 (1947 to 1950)	Richard Arthur Wicks (Bank Officer) Thelma Lucy Wicks (Married Woman)	Book 2021 No. 993
23.12.1950 (1950 to 1951)	Stephanie Genevieve Hosford (Married Woman)	Book 2159 No. 930
01.06.1951 (1951 to 1954)	Delbourg Corporation Pty Limited	Book 2179 No. 921 Now Vol 6862 Fol 92
14.01.1954 (1954 to 1957)	Samuel Salvatore Dimarco (Radio Dealer)	Vol 6862 Fol 92
05.06.1957 (1957 to 1965)	John Henry Ford (Florist) Marian Ford (Married Woman)	Vol 6862 Fol 92 Now Vol 7497 Fol 227
18.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Vol 7497 Fol 227
29.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Vol 7497 Fol 227

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DX 967 Sydney

Search continued as regards part Lot 23 D.P. 441010 (residue after road in D.P. 446163)

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Vol 7497 Fol 227
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 7497 Fol 227
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 7497 Fol 227 Now 23/441010
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	23/441010
04.10.2011 (2011 to date)	# Council of the City of Liverpool	23/441010

Denotes Current Registered Proprietor

Easements: -

- 17.06.1975 (P 418761) Easement for Underground Mains one wide (defined in D.P. 1136120)
- 29.03.2012 (D.P. 1136120 & AG 834336) Easement for Underground Cables 1.72 wide
- 29.03.2012 (D.P. 1136120 & AG 834336) Easement for Padmount Sub Station

Leases, excluding building premises: -

- 23.10.1968 to Prospect County Council, of the room alongside the truck dock, the level below the car park, together with rights
- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- 17.07.1989 to Prospect County Council, of substation premises No. 1
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

As regards Lot 1 D.P. 507070

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.03.1916 (1916 to 1923)	Alice Mary Rose (Married Woman)	Book 1079 No. 418
30.10.1923 (1923 to 1965)	Thomas Patrick Fitzpatrick (Baker, now retired) Mary Jane Fitzpatrick (Married Woman)	Book 1325 No. 768
18.06.1965 (1965 to 1965)	John Wynn Sutherland Kennedy (Project Manager)	Book 2749 No. 304
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Book 2749 No. 305
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Book 2755 No. 5 Now Vol 10336 Fol 163
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 10336 Fol 163
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 10336 Fol 163 Now 1/507070
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	1/507070

ABN: 42 166 543 255
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Fax: 02 9232 7141
(Ph: 0412 199 304)

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DX 967 Sydney

Search continued as regards Lot 1 D.P. 507070

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
04.10.2011 (2011 to date)	# Council of the City of Liverpool	1/507070

Denotes Current Registered Proprietor

Easements: - NIL

Leases, excluding building premises: -

- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

As regards Lot 2 D.P. 229979

As regards the parts numbered (1) and (3) on the attached cadastre

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.02.1907 (Part 3) (1907 to 1933) 25.11.1911 (part 1) (1911 to 1936)	Florence May Murphy (Married Woman)	Book 824 No. 212 (Part 3) Book 951 No. 994 (Part 1)
17.04.1936 (1936 to 1960)	Francis William Young (Produce Merchant)	Book 1748 No. 731
24.11.1960 (1960 to 1965)	N.S.W. Produce Co. Pty Limited	Book 2549 No. 273
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Book 2738 No. 549

As regards the part numbered (2) on the attached cadastre

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.02.1907 (1907 to 1933)	Florence May Murphy (Married Woman)	Book 824 No. 212
03.05.1933 (1933 to 1965)	Thomas Patrick Fitzpatrick (Baker) Mary Jane Fitzpatrick (Married Woman)	Book 1690 No. 116
09.04.1965 (1965 to 1965)	Nellie Palmer Jardine (Widow)	Book 2741 No. 597
04.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Book 2747 No. 836

Search continued as regards the whole of Lot 2 D.P. 229979

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<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Book 2755 No. 5 Now Vol 10665 Fol 220
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 10665 Fol 220
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 10665 Fol 220 Now 2/229979
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	2/229979
04.10.2011 (2011 to date)	# Council of the City of Liverpool	2/229979

Denotes Current Registered Proprietor

Easements: -

- Part of the lands labelled (1) and (3) were affected by a Right of Carriageway and a Right of Footway created 17.04.1936 (Book 1748 No. 731) – now released
- 23.02.1968 (L 18000) Easement for Electricity Mains four feet wide (defined in D.P. 235458)

Leases, excluding building premises: -

- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
- Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated

As regards Lot 1 D.P. 229979

A strip approximately six feet wide inside the western boundary is possessory title

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
07.10.1916 (1916 to 1945)	Annie Garard (Married Woman) (& Her deceased estate)	Book 1094 No. 106
20.10.1945 (1945 to 1965)	George Garard (Railway Employee)	Book 1973 No. 335
18.06.1965 (1965 to 1965)	Westfield Development Corporation Limited	Bool 2749 No. 302
30.06.1965 (1965 to 1969)	Consolidated Realities Pty Limited	Book 2755 No. 5 Now Vol 10665 Fol 219
27.06.1969 (1969 to 1985)	State Superannuation Board	Vol 10665 Fol 219
27.03.1985 (1985 to 2001)	Central Meat Mart Pty Limited	Vol 10665 Fol 219 Now 1/229979
14.11.2001 (2001 to 2011)	Gazcon Pty Limited	1/229979
04.10.2011 (2011 to date)	# Council of the City of Liverpool	1/229979

Denotes Current Registered Proprietor

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Level 14, 135 King Street, Sydney

Sydney 2000

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DX 967 Sydney

Search continued as regards Lot 1 D.P. 229979

Easements: -

- 26.09.1975 (P418761) Easement for Underground Mains 1 wide and 0.915 wide (defined in P418761)

Leases, excluding building premises: -

- 23.09.1969 to G.J. Coles & Coy Limited – expired 13.07.1994
 - Various leases were found from 12.07.1995 to 13.05.2009 that have since expired or have been surrendered, not investigated
-

Yours Sincerely

Mark Groll

27 July 2016



ABN: 36 092 724 251
Ph: 02 9099 7400
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Sydney 2000
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3

Summary of Owners Report

LRS NSW

Sydney

Address: - Scott Street and Terminus Street, Liverpool

Description:
Lot 11 D.P. 522284, Lot 12 D.P. 657056
Also
Lot 100 D.P. 877435 and Lots 1 & 2 D.P. 1146671

As regards Lot 10 D.P. 877435 – 40 to 46 Scott Street

As regards the part numbered (1) on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand) (For their life or the survivor, after for their children)	Book 982 No. 22
08.06.1951 (1951 to 1953)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Book 2187 No. 841 (Book 2305 No. 405)
18.09.1953 (1953 to 1957)	George Edward Humphrys (Electrical Retailer) Dorothy June Humphrys (Married Woman)	Book 2266 No. 339
15.05.1957 (1957 to 1988)	Humphrys Pty Limited	Book 2406 No. 275
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Book 3806 No. 409 Now 100/877435

As regards the part numbered (2) on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.03.1923 (1923 to 1949)	Margaret (or Mary Agnes) Fitzpatrick (& Her Bankrupt Estate)	Book 1297 No. 64
01.06.1949 (1949 to 1968)	Everard George Connolly (Engineer) Marjorie Ellen Connolly (Married Woman)	Book 2088 No. 516
05.02.1968 (1968 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Book 2873 No. 986
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Book 3806 No. 411



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As regards the part numbered (3) on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand) (For their life or the survivor, after for their children)	Book 982 No. 22
08.06.1951 (1951 to 1954)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Book 2187 No. 841 (Book 2305 No. 405)
28.01.1954 (1954 to 1955)	Roy Donald Woods Caterson (Estate Agent)	Book 2327 No. 154
03.08.1955 (1955 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Book 2342 No. 334
28.11.1988 (1988 to 2004)	Victordot Pty Limited	Book 3806 No. 413 Now 100/877435

As regards the part numbered (4) on the attached Cadastral Records Enquiry Report

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand) (For their life or the survivor, after for their children)	Book 982 No. 22
08.06.1951 (1951 to 1954)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Book 2187 No. 841 (Book 2305 No. 405)
28.01.1954 (1954 to 1973)	John Patrick O'Neill	Book 2325 No. 850
16.02.1973 (1973 to 1976)	Salzburg Investments Pty Limited	Book 3093 No. 775
12.03.1976 (1976 to 2004)	Gard's Variety Store Pty Limited	Book 3222 No. 697 Now 100/877435

Continued as regards the whole of Lot 100 D.P. 877435

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
29.11.2004 (2004 to 2007)	One Spencer Street Pty Limited	100/877435
22.10.2007 (2007 to 2019)	Tongda International Tobacco Pty Ltd	100/877435
01.02.2019 (2019 to date)	# Liverpool City Council	100/877435

Denotes current registered proprietor



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Level 14, 135 King Street, Sydney
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DX 967 Sydney

Continued as regards the whole of Lot 100 D.P. 877435

Leases, excluding premises: -

- 09.04.2009 (AE 605987) – expired not investigated
- 10.01.2014 (AI 285147) to Athlete Zone Pty Limited, of 40 to 47 Scott Street, expires 31.03.2018

Easements: -

- 18.09.1953 (Book 2266 No. 339), affecting the part numbered (1) on the attached Cadastral Records Enquiry Report – Right of Way 3 feet wide along south west boundary to the lane (now cancelled)
- 28.01.1954 (Book 2327 No. 154), affecting the part numbered (3) on the attached Cadastral Records Enquiry Report – Right of Way 3 feet wide along south west boundary to the lane (now cancelled)
- 23.12.1976 (Book 3261 No. 231 & Book 3266 No. 61, re-registration), affecting the part numbered (3) on the attached Cadastral Records Enquiry Report – Easement for support benefitting the part numbered (4) on the attached Cadastral Records Enquiry Report (now cancelled)

As regards Lot 12 D.P. 657056 – part of 48 Scott Street

A small strip of land along the south west boundary has been included by encroachment. Searches have not been conducted against this small strip

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
23.03.1916 (1916 to 1920)	Margaret Ethel Forrester (Married Woman)	Book 1078 No. 862
18.02.1920 (1920 to 1940)	Lucy Taylor (Married Woman)	Book 1177 No. 662
11.09.1940 (1940 to 1965)	Henry Alexander Taylor (Pressman) William Taylor (Labourer) Vesta Florence Bamford (Married Woman)	Book 1870 No. 479
09.12.1965 (1965 to 1972)	Peter Roland Thomas Edward Thomas (Publisher) Eileen Mary Thomas (Married Woman)	Book 2773 No. 832 Now Vol 10834 Fol 85
09.08.1972 (1972 to 1999)	Perram's Electrical & Television Pty Ltd	Vol 10834 Fol 85 Now 12/657056
02.07.1999 (1999 to 2001)	Landmark Square Developments Pty Limited	12/657056
05.12.2001 (2001 to 2008)	Gazcon Pty Limited	12/657056
06.09.2008 (2008 to 2019)	Australia New Century International Duty Free Pty Limited Now Australia New Century International Pty Limited	12/657056
31.01.2019 (2019 to date)	# Liverpool City Council	12/657056

Denotes current registered proprietor



ABN: 36 092 724 251
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Level 14, 135 King Street, Sydney
Sydney 2000
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Continued as regards Lot 12 D.P. 657056 – part of 48 Scott Street

Leases: - NIL

- 16.05.1988 to Time Warp Amusements Pty Limited – expired 24.01.1991, also 3 year option
- 19.07.1993 (I 466034) to Time Warp Amusements Pty Limited – expires 06.03.1994, also 3 year option

Easements: - NIL

As regards Lot 11 D.P. 522284 – part of 48 Scott Street

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand) (For their life or the survivor, after for their children)	Book 982 No. 22
08.06.1951 (1951 to 1952)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent)	Book 2187 No. 841
24.06.1952 (1952 to 1952)	Ainslie Lawrence Chun (Manufacturer)	Book 2219 No. 12
24.06.1952 (1952 to 1958)	Frank Edwin Ollis (Printer)	Book 2219 No. 13
14.08.1958 (1958 to 1999)	Perram's Electrical & Television Pty Ltd	Book 2457 No. 138 (Book 2506 No. 770 – Confirmation) Now 11/522284
02.07.1999 (1999 to 2001)	Landmark Square Developments Pty Limited	11/522284
05.12.2001 (2001 to 2008)	Gazcon Pty Limited	11/522284
06.09.2008 (2008 to 2019)	Australia New Century International Duty Free Pty Limited Now Australia New Century International Pty Limited	11/522284
31.01.2019 (2019 to date)	# Liverpool City Council	11/522284

Denotes current registered proprietor

Leases: - NIL

- 13.04.1972 to William Robert Bright (Painter) – expired 16.05.1988
- 16.05.1988 to Time Warp Amusements Pty Limited – expired 24.01.1991, also 3 year option
- 19.07.1993 (I 466034) – expired not investigated

Easements: - NIL



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

As regards Lot 1 D.P. 1146671

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
16.03.1923 (1923 to 1949)	Margaret (or Mary Agnes) Fitzpatrick (& Her Bankrupt Estate)	Book 1297 No. 64
01.06.1949 (1949 to 1968)	Everard George Connolly (Engineer) Marjorie Ellen Connolly (Married Woman)	Book 2088 No. 516
05.02.1968 (1968 to 1988)	John Edmond Gard (Manufacturer) Beryl Agnes Gard (Married Woman)	Book 2873 No. 986
28.11.1988 (1988 to date)	# Victordot Pty Limited	Book 3806 No. 411 Now 1/1146671

Denotes current registered proprietor

Leases and Easements: - NIL

Note: - Affected by Re-alignment notification Gazette 5th February 1960 Folio 323

As regards Lot 2 D.P. 1146671

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
22.10.1912 (1912 to 1951)	Emily Ball (Married Woman) John James Ball (Millhand) (For their life or the survivor, after for their children)	Book 982 No. 22
08.06.1951 (1951 to 1953)	Roy Donald Woods Caterson (Estate Agent) Rex Rowell (Estate Agent) John Patrick O'Neill	Book 2187 No. 841 (Book 2305 No. 405)
18.09.1953 (1953 to 1957)	George Edward Humphrys (Electrical Retailer) Dorothy June Humphrys (Married Woman)	Book 2266 No. 339
15.05.1957 (1957 to 1988)	Humphrys Pty Limited	Book 2406 No. 275
28.11.1988 (1988 to date)	Victordot Pty Limited	Book 3806 No. 409 Now 2/1146671

Denotes current registered proprietor

Leases: - NIL

Easements: -

- 18.09.1953 (Book 2266 No. 339), affecting the part numbered (1) on the attached Cadastral Records Enquiry Report – Right of Way 3 feet wide along south west boundary to the lane (now cancelled)

Note: - Affected by Re-alignment notification Gazette 5th February 1960 Folio 323

Yours Sincerely,
Mark Groll
09 April 2019

Email: mark.groll@infotrack.com.au

Cadastral Records Enquiry Report

Ref : MARK

Requested Parcel : Lot 2 DP 229979

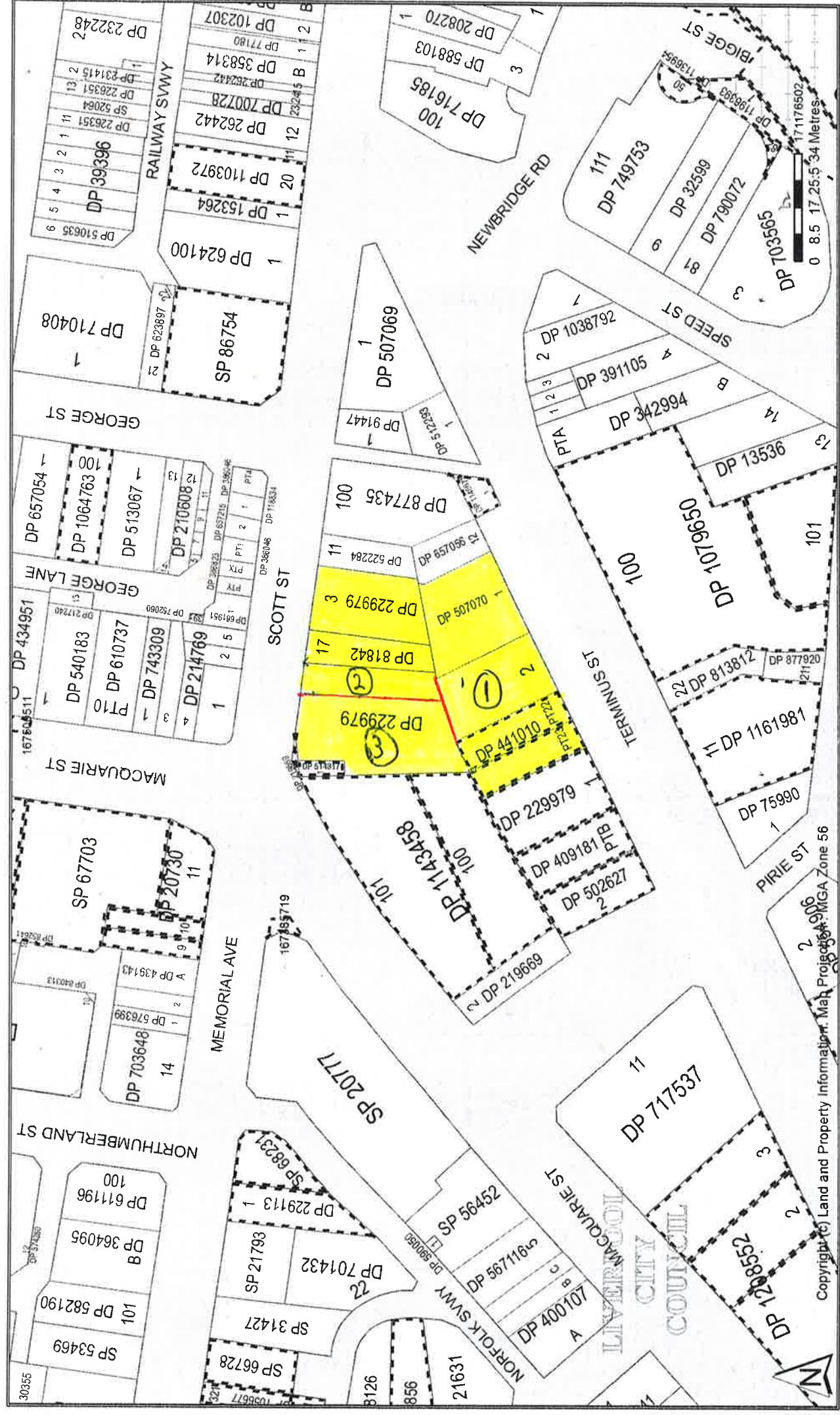
Identified Parcel : Lot 2 DP 229979

Locality : LIVERPOOL

LGA : LIVERPOOL

Parish : ST LUKE

County : CUMBERLAND





DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 1 sheet

SIGNATURES, SEALS and STATEMENTS of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.



DP1136120 S

Registered:  10.3.2009

Title System: TORRENS

Purpose: EASEMENT

**PLAN OF PROPOSED EASEMENTS OVER
LOT 1 IN DP 229979 AND PART LOTS 22 & 23
IN DP 441010**

LGA: LIVERPOOL

Locality: LIVERPOOL

Parish: ST. LUKE

County: CUMBERLAND

Use PLAN FORM 6A
for additional certificates, signatures, seals and statements

Crown Lands NSW/Western Lands Office Approval

I.....in approving this plan certify
(Authorised Officer)
that all necessary approvals in regard to the allocation of the land
shown herein have been given

Signature:.....

Date:.....

File Number:.....

Office:.....

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and
Assessment Act 1979 have been satisfied in relation to:

the proposed..... set out herein
(insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority:

Date of Endorsement:

Accreditation no:

Subdivision Certificate no:

File no:

* Delete whichever is inapplicable.

Surveying Regulation, 2006

I, Ross Trevor Duncum
of Burton & Field P/L, DX 5020, Liverpool
a surveyor registered under the *Surveying Act, 2002*, certify that the
survey represented in this plan is accurate, has been made in
accordance with the *Surveying Regulation, 2006* and was completed
on: 15-12-2008

The survey relates to Easements

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

Signature  Dated: : 14-01-2009

Surveyor registered under the *Surveying Act, 2002*

Datum Line: "X" - "Y"

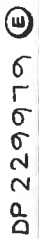
Type: Urban

Plans used in the preparation of survey
DP 229979, DP 507069, DP 512293, DP 502627,
DP 441010, DP 409181, DP 507070, DP 502626, DP
91447, DP 1079650, DP 980815, DP 214684,
DP 219669, DP 235458

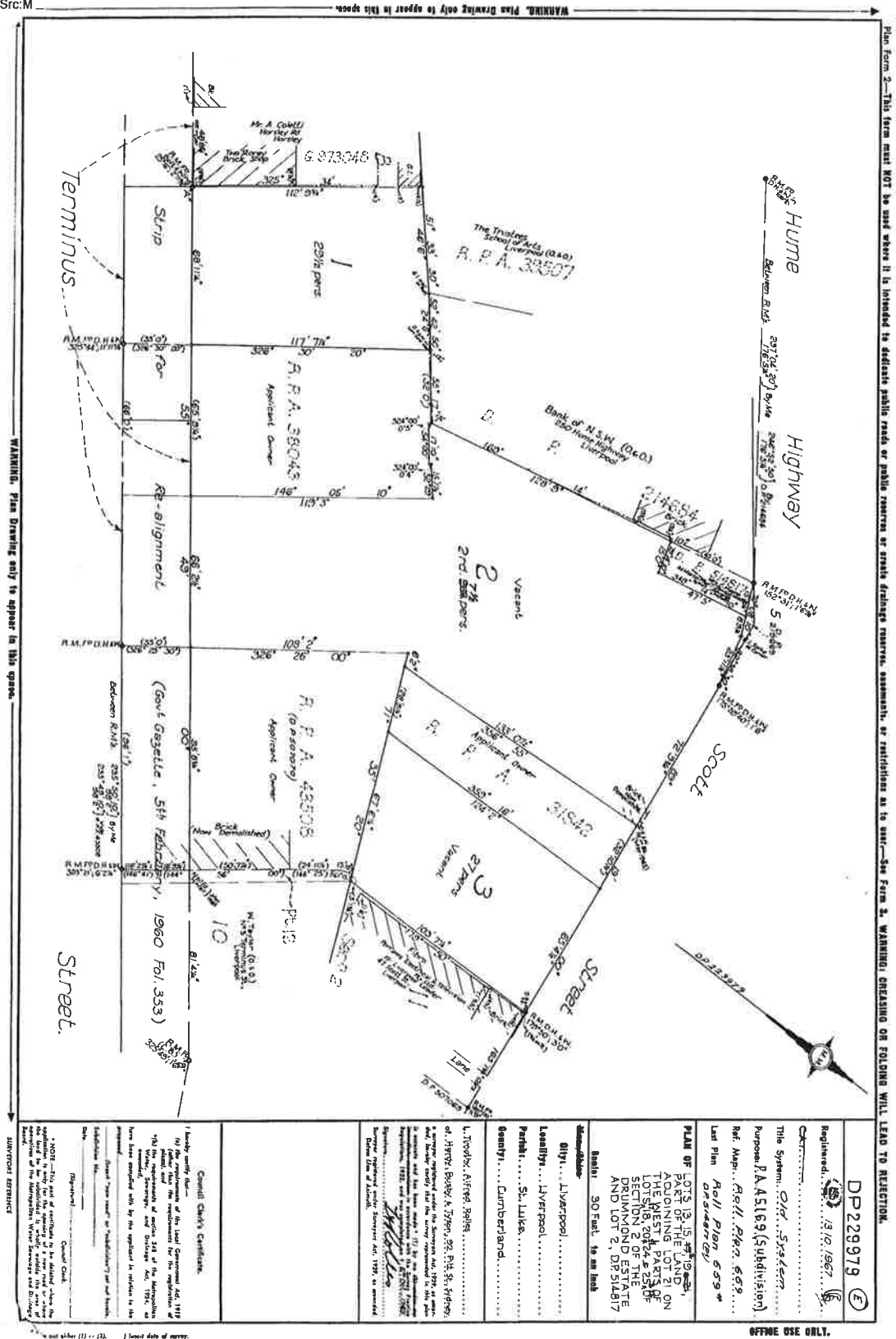
(if insufficient space use Plan Form 6A annexure sheet)

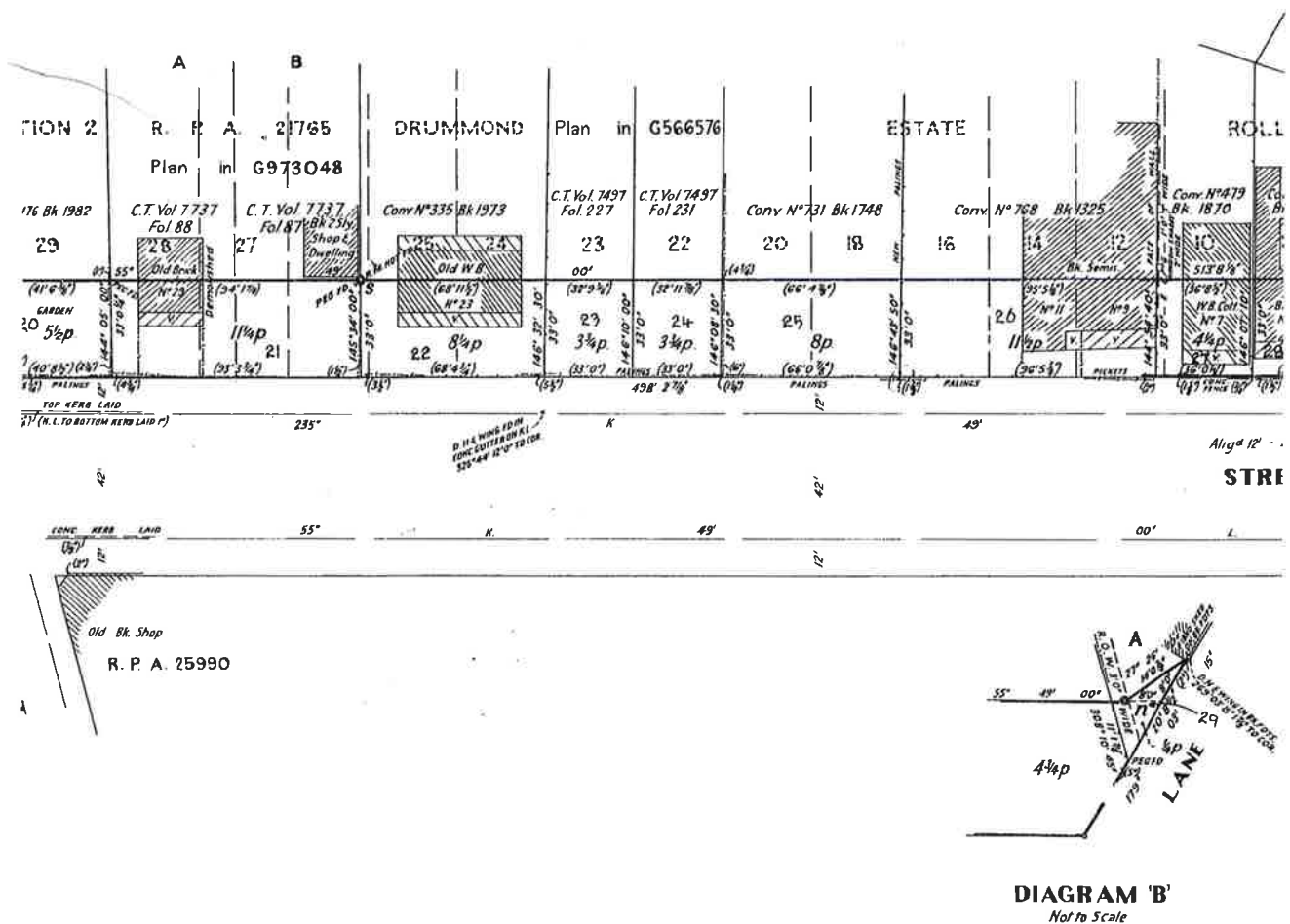
SURVEYOR'S REFERENCE: 18211/58364_DP
INTEGRAL REF: RP 4502-2007/04992/001

* OFFICE USE ONLY



WARNING. Plan Drawing only to appear in this space.



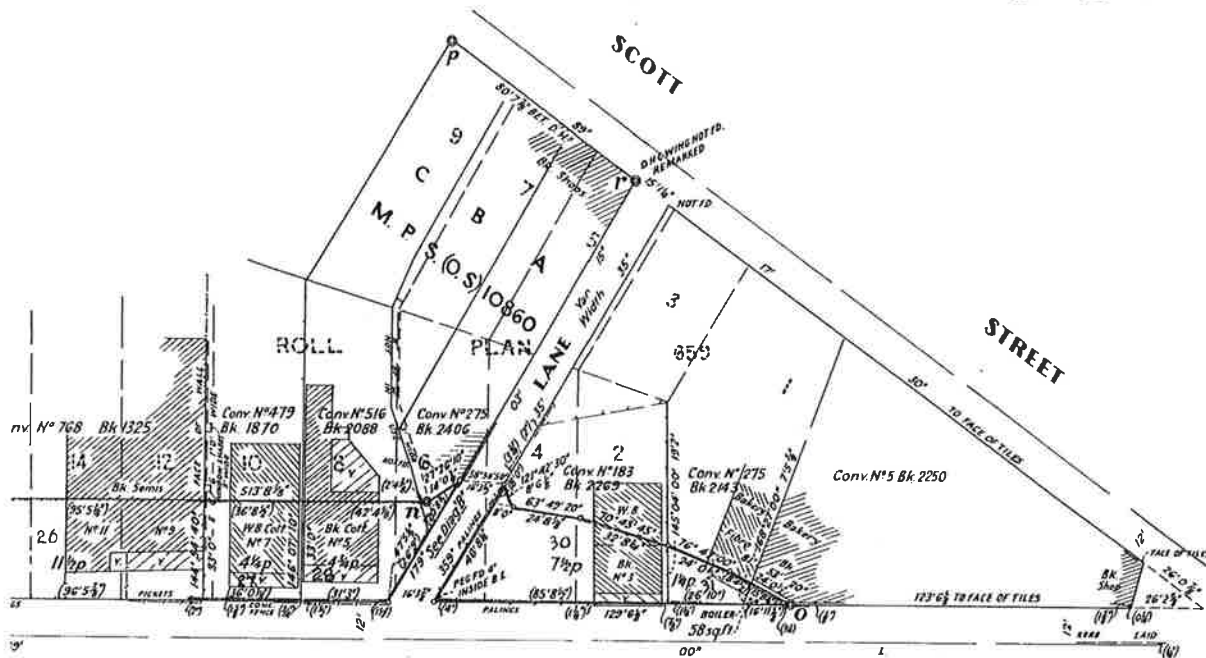


FP 446 163 (E)

FP 446 163 (E)

Catalogued 52885 (L)
at the Registrar General's Department

D. M. R. Plan No 119



Align 12' - 42' - 12'

STREET

B



DIAGRAM 'B'
Not to Scale

I, Victor Thomas Brown of the Department of Main Roads, Sydney, a surveyor registered under the Surveyors Act 1929-1946 hereby certify that the survey represented in this plan is accurate and has been made by me in accordance with the Survey Practice Regulations 1933 and that the survey was completed on 28th October 1958

V.T. Brown Date *13 July 59*
Surveyor registered under the Surveyors Act 1929-1946

FP 446163 (E)

FP 4.

PLAN

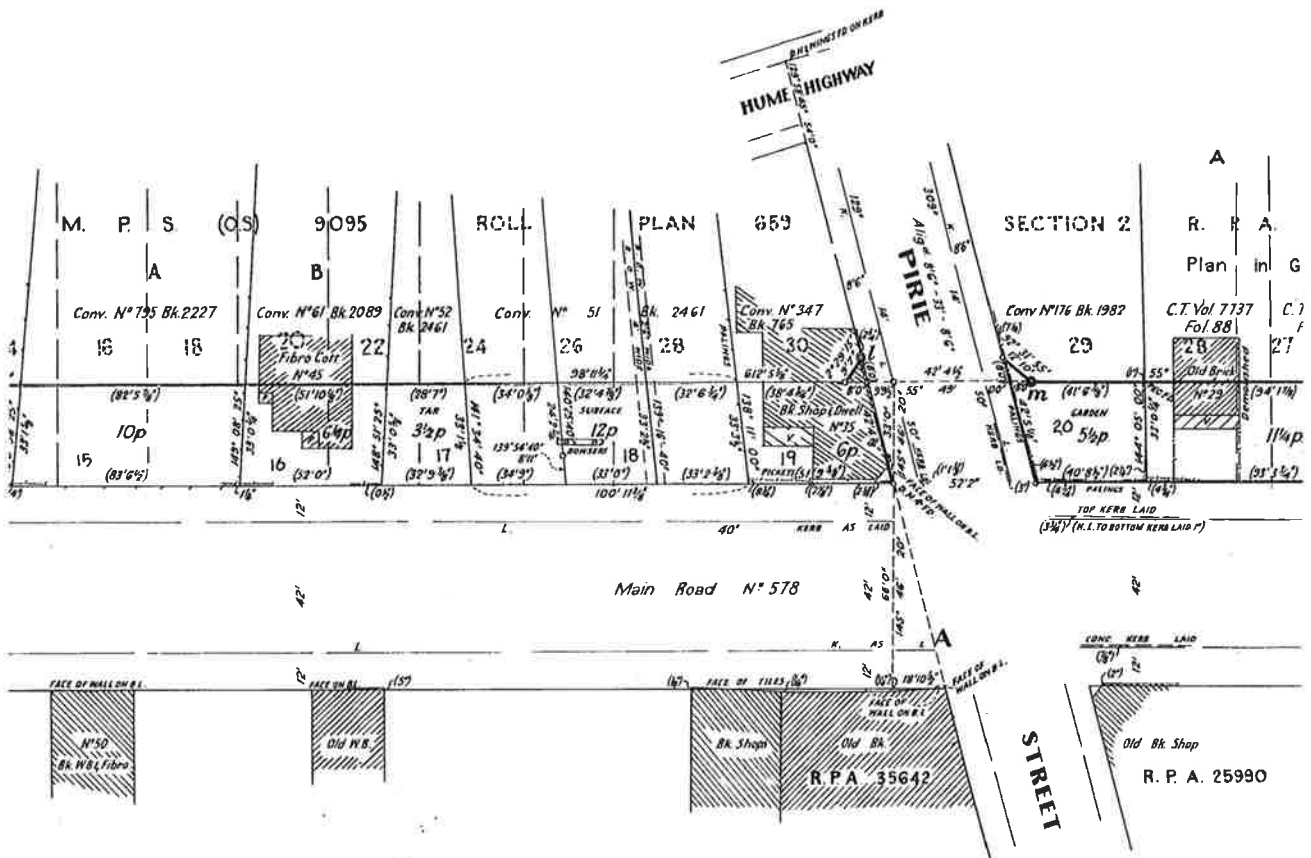
in accordance with the provisions of the Main Roads Act 1924-1958 in connection with
 proposed widening of part of Hume Highway and Terminus Street

STATE HIGHWAY N°2 & MAIN ROAD N°578

of St. Luke County of Cumberland

Scale: 40 feet to an inch

Width of proposed road widening 33 feet and variable
 Land proposed to be acquired for widening shown by red edging



REFERENCE MARKS

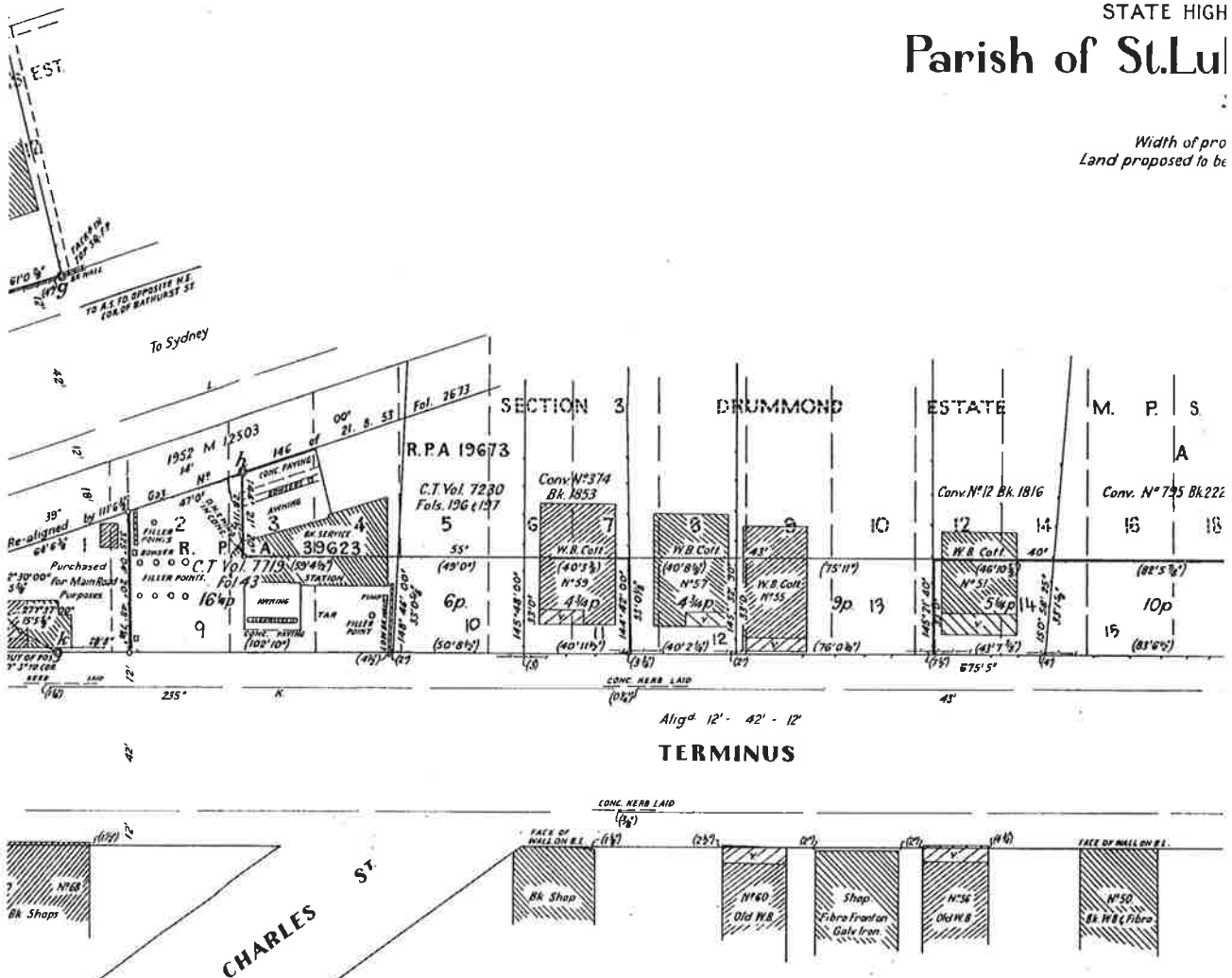
COR	BEARING	DISTANCE	FROM	COR	BEARING	DISTANCE	FROM
a	306° 22' 15"	1' 6"	G.I. SPIKE & WING IN CONC.	l	219° 14' 50"	1' 6"	CONC. BLOCK
b	305° 08' 10"	1' 6"	" " " " " "	m	325° 49' 00"	1' 6"	" " " " " "
c	304° 45' 10"	1' 6"	CONC. BLOCK	n	325° 49' 00"	1' 6"	CONC. BLOCK
d	312° 30' 10"	1' 6"	" " " " " "	o	338° 51' 10"	1' 6"	CONC. BLOCK
e	313° 12' 35"	1' 6"	" " " " " "	p	179° 17' 30"	1' 6"	D.H. & WING FD.
f	40° 28' 30"	1' 6"	" " " " " "	r	179° 17' 30"	1' 6"	D.H. & WING
g	310° 10' 15"	1' 6"	G.I. SPIKE & WING IN CONC.	s	25° 16' 00"	2' 11 1/2"	G.I. SPIKE & WING IN CONC.
h	129° 14' 00"	1' 6"	CONC. BLOCK	t	137° 30' 05"	3' 0"	D.H. & WING IN CONC. FD.
i	129° 14' 00"	1' 7"	CONC. BLOCK FD.	u	145° 43' 40"	1' 6"	CONC. BLOCK
j	325° 43' 40"	2' 3"	D.H. & WING FD.	v	129° 14' 00"	1' 6"	G.I. SPIKE & WING IN CONC.

578°101

FP 446 163(E)

of re-alignment in accordance with the
 the proposed widening of
 STATE HIGH
 Parish of St. Lu

Width of pro
 Land proposed to be

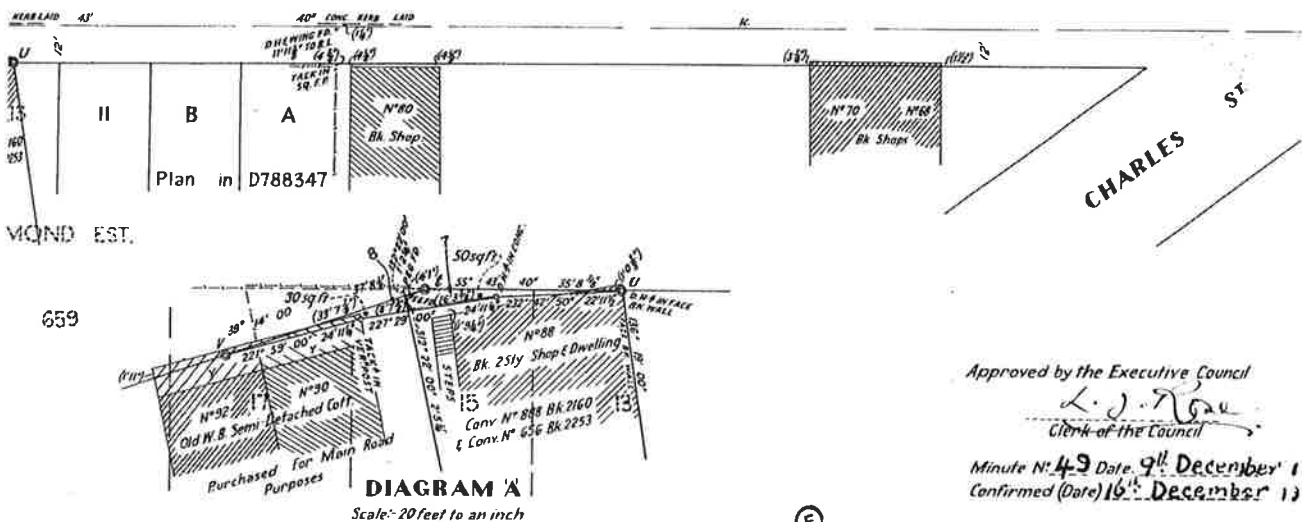


Approved by the Executive Council

L. J. Rose
 Clerk of the Council

Minute N° 49 Date: 9th December 1954
 Confirmed (Date) 16th December 1954

COR.	BEARING
a	306° 22'
b	305° 08'
c	304° 45'
d	312° 30'
e	311° 11'
f	40° 28'
g	310° 10'
h	125° 14'
i	125° 14'
k	325° 45'

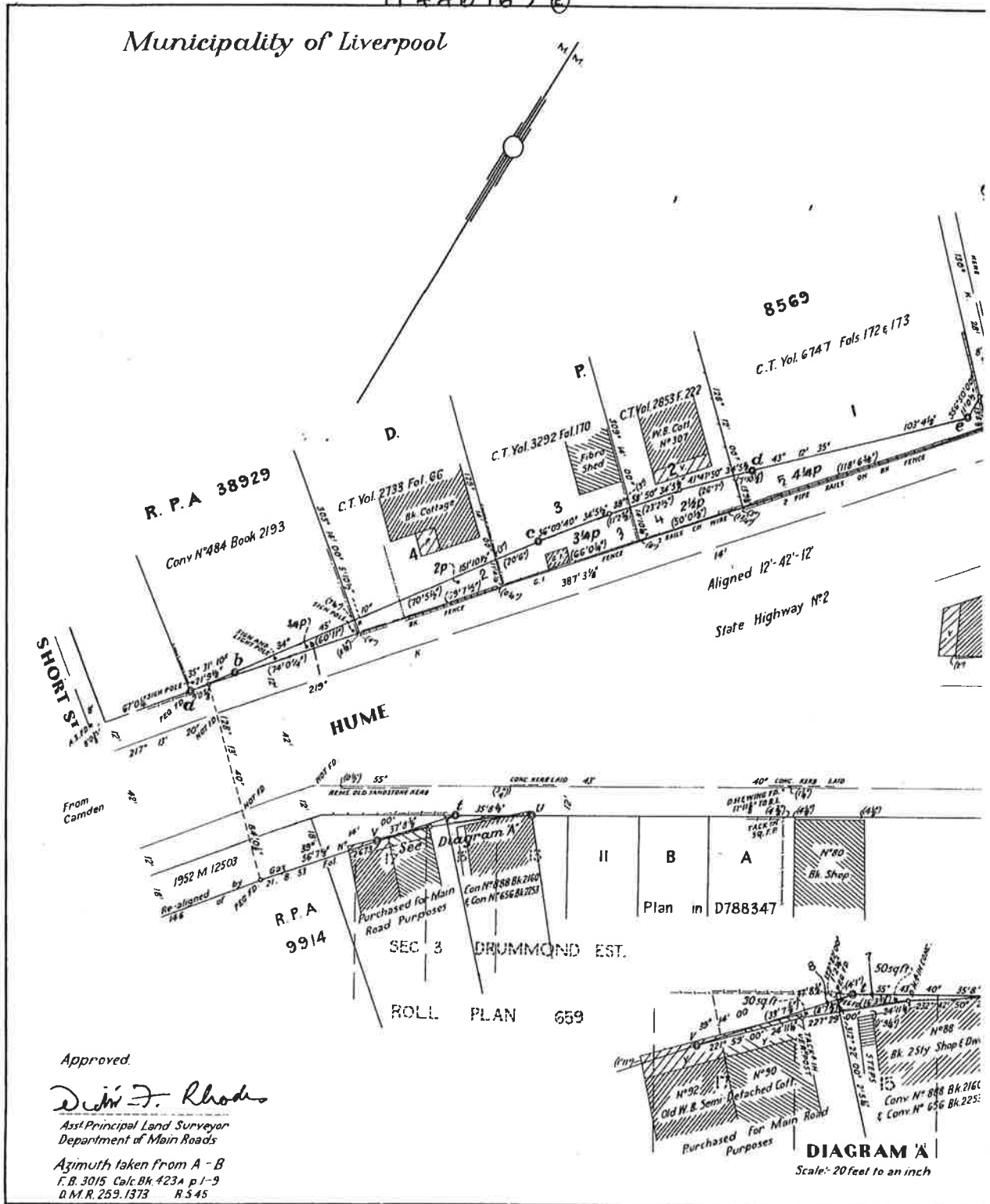


Minute N° 49 Date 9th December 19
Confirmed (Date) 16th December 19

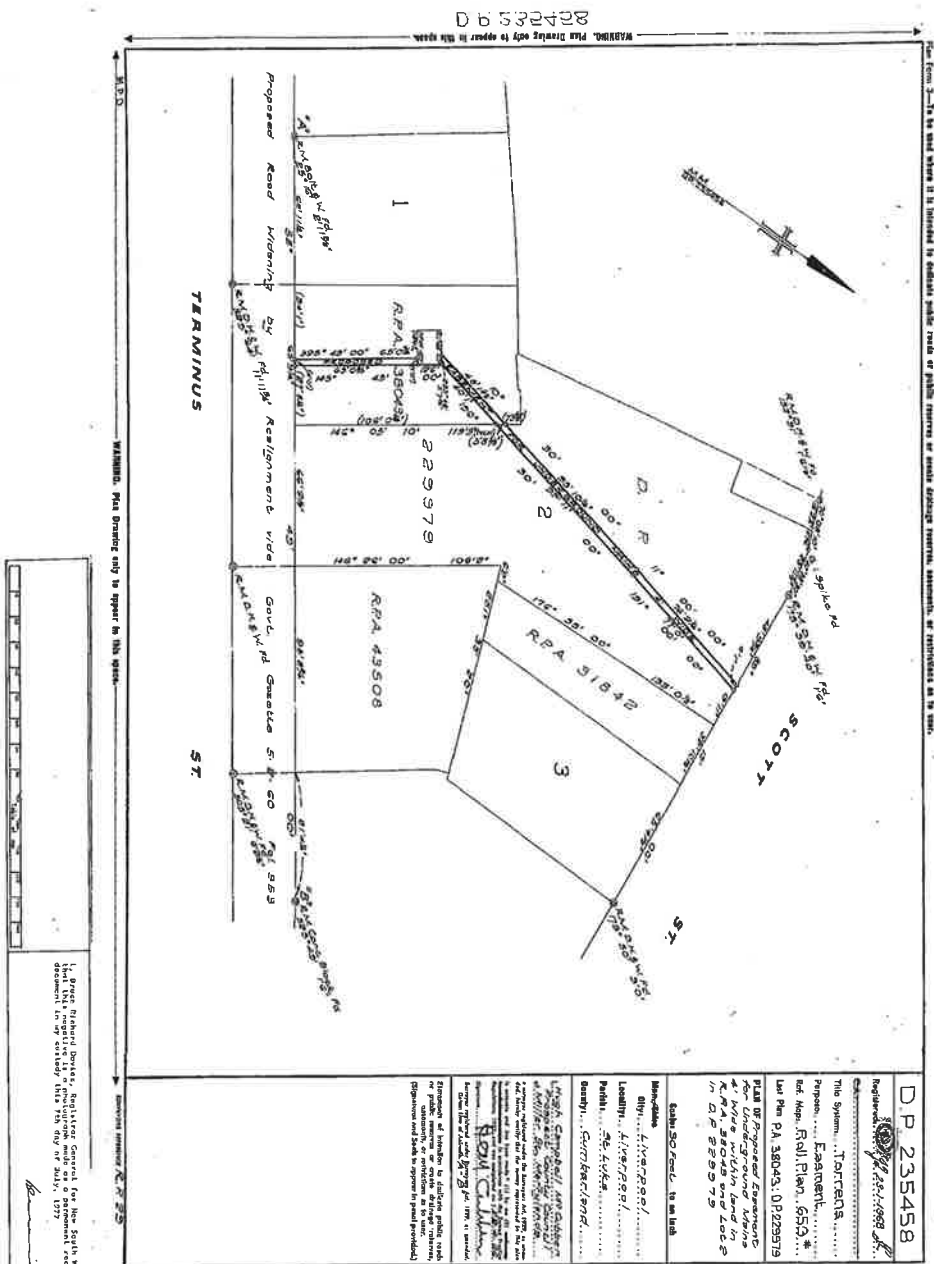
DP446163 (E)

EP A 6 1 6 3 (E)

Municipality of Liverpool



CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS		
FEET INCHES	METRES	
0 1/8	0.003	
0 1/4	0.006	
0 3/8	0.010	
0 1/2	0.013	
0 5/8	0.016	
0 3/4	0.019	
1 1/8	0.029	
1 1/4	0.032	
1 3/8	0.035	
1 1/2	0.038	
1 5/8	0.041	
1 3/4	0.044	
2 1/8	0.054	
2 1/4	0.057	
2 3/8	0.060	
2 1/2	0.063	
2 5/8	0.066	
3 1/8	0.076	
3 1/4	0.079	
3 3/8	0.082	
3 1/2	0.085	
3 5/8	0.088	
4 1/8	0.102	
4 1/4	0.105	
4 3/8	0.108	
4 1/2	0.111	
4 5/8	0.114	
5 1/8	0.124	
5 1/4	0.127	
5 3/8	0.130	
5 1/2	0.133	
5 5/8	0.136	
6 1/8	0.146	
6 1/4	0.149	
6 3/8	0.152	
6 1/2	0.155	
6 5/8	0.158	
7 1/8	0.168	
7 1/4	0.171	
7 3/8	0.174	
7 1/2	0.177	
7 5/8	0.180	
8 1/8	0.190	
8 1/4	0.193	
8 3/8	0.196	
8 1/2	0.199	
8 5/8	0.202	
9 1/8	0.212	
9 1/4	0.215	
9 3/8	0.218	
9 1/2	0.221	
9 5/8	0.224	
10 1/8	0.234	
10 1/4	0.237	
10 3/8	0.240	
10 1/2	0.243	
10 5/8	0.246	
11 1/8	0.256	
11 1/4	0.259	
11 3/8	0.262	
11 1/2	0.265	
11 5/8	0.268	
12 1/8	0.278	
12 1/4	0.281	
12 3/8	0.284	
12 1/2	0.287	
12 5/8	0.290	
13 1/8	0.300	
13 1/4	0.303	
13 3/8	0.306	
13 1/2	0.309	
13 5/8	0.312	
14 1/8	0.322	
14 1/4	0.325	
14 3/8	0.328	
14 1/2	0.331	
14 5/8	0.334	
15 1/8	0.344	
15 1/4	0.347	
15 3/8	0.350	
15 1/2	0.353	
15 5/8	0.356	
16 1/8	0.366	
16 1/4	0.369	
16 3/8	0.372	
16 1/2	0.375	
16 5/8	0.378	
17 1/8	0.388	
17 1/4	0.391	
17 3/8	0.394	
17 1/2	0.397	
17 5/8	0.400	
18 1/8	0.410	
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18 3/8	0.416	
18 1/2	0.419	
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19 1/8	0.432	
19 1/4	0.435	
19 3/8	0.438	
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19 5/8	0.444	
20 1/8	0.454	
20 1/4	0.457	
20 3/8	0.460	
20 1/2	0.463	
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21 1/8	0.476	
21 1/4	0.479	
21 3/8	0.482	
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21 5/8	0.488	
22 1/8	0.498	
22 1/4	0.501	
22 3/8	0.504	
22 1/2	0.507	
22 5/8	0.510	
23 1/8	0.520	
23 1/4	0.523	
23 3/8	0.526	
23 1/2	0.529	
23 5/8	0.532	
24 1/8	0.542	
24 1/4	0.545	
24 3/8	0.548	
24 1/2	0.551	
24 5/8	0.554	
25 1/8	0.564	
25 1/4	0.567	
25 3/8	0.570	
25 1/2	0.573	
25 5/8	0.576	
26 1/8	0.586	
26 1/4	0.589	
26 3/8	0.592	
26 1/2	0.595	
26 5/8	0.598	
27 1/8	0.608	
27 1/4	0.611	
27 3/8	0.614	
27 1/2	0.617	
27 5/8	0.620	
28 1/8	0.630	
28 1/4	0.633	
28 3/8	0.636	
28 1/2	0.639	
28 5/8	0.642	
29 1/8	0.652	
29 1/4	0.655	
29 3/8	0.658	
29 1/2	0.661	
29 5/8	0.664	
30 1/8	0.674	
30 1/4	0.677	
30 3/8	0.680	
30 1/2	0.683	
30 5/8	0.686	
31 1/8	0.696	
31 1/4	0.699	
31 3/8	0.702	
31 1/2	0.705	
31 5/8	0.708	
32 1/8	0.718	
32 1/4	0.721	
32 3/8	0.724	
32 1/2	0.727	
32 5/8	0.730	
33 1/8	0.740	
33 1/4	0.743	
33 3/8	0.746	
33 1/2	0.749	
33 5/8	0.752	
34 1/8	0.762	
34 1/4	0.765	
34 3/8	0.768	
34 1/2	0.771	
34 5/8	0.774	
35 1/8	0.784	
35 1/4	0.787	
35 3/8	0.790	
35 1/2	0.793	
35 5/8	0.796	
36 1/8	0.806	
36 1/4	0.809	
36 3/8	0.812	
36 1/2	0.815	
36 5/8	0.818	
37 1/8	0.828	
37 1/4	0.831	
37 3/8	0.834	
37 1/2	0.837	
37 5/8	0.840	
38 1/8	0.850	
38 1/4	0.853	
38 3/8	0.856	
38 1/2	0.859	
38 5/8	0.862	
39 1/8	0.872	
39 1/4	0.875	
39 3/8	0.878	
39 1/2	0.881	
39 5/8	0.884	
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40 1/4	0.897	
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40 1/2	0.903	
40 5/8	0.906	
41 1/8	0.916	
41 1/4	0.919	
41 3/8	0.922	
41 1/2	0.925	
41 5/8	0.928	
42 1/8	0.938	
42 1/4	0.941	
42 3/8	0.944	
42 1/2	0.947	
42 5/8	0.950	
43 1/8	0.960	
43 1/4	0.963	
43 3/8	0.966	
43 1/2	0.969	
43 5/8	0.972	
44 1/8	0.982	
44 1/4	0.985	
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44 1/2	0.991	
44 5/8	0.994	
45 1/8	1.004	
45 1/4	1.007	
45 3/8	1.010	
45 1/2	1.013	
45 5/8	1.016	
46 1/8	1.026	
46 1/4	1.029	
46 3/8	1.032	
46 1/2	1.035	
46 5/8	1.038	
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47 1/4	1.051	
47 3/8	1.054	
47 1/2	1.057	
47 5/8	1.060	
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53 1/8	1.180	
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53 1/2	1.189	
53 5/8	1.192	
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54 1/4	1.205	
54 3/8	1.208	
54 1/2	1.211	
54 5/8	1.214	
55 1/8	1.224	
55 1/4	1.227	
55 3/8	1.230	
55 1/2	1.233	
55 5/8	1.236	
56 1/8	1.246	
56 1/4	1.249	
56 3/8	1.252	
56 1/2	1.255	
56 5/8	1.258	
57 1/8	1.268	
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59 5/8	1.324	
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61 1/4	1.359	
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63 1/4	1.403	
63 3/8	1.406	
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64 1/8	1.422	
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64 3/8	1.428	
64 1/2	1.431	
64 5/8	1.434	
65 1/8	1.444	
65 1/4	1.447	
65 3/8	1.450	
65 1/2	1.453	
65 5/8	1.456	
66 1/8	1.466	
66 1/4	1.469	
66 3/8	1.472	
66 1/2	1.475	
66 5/8	1.478	
67 1/8	1.488	
67 1/4	1.491	
67 3/8	1.494	
67 1/2	1.497	
67 5/8	1.500	
68 1/8	1.510	
68 1/4	1.513	
68 3/8	1.516	
68 1/2	1.519	
68 5/8	1.522	
69 1/8	1.532	
69 1/4	1.535	
69 3/8	1.538	
69 1/2	1.541	
69 5/8	1.544	
70 1/8	1.554	
70 1/4	1.557	
70 3/8	1.560	
70 1/2	1.563	
70 5/8	1.566	
71 1/8	1.576	
71 1/4	1.579	
71 3/8	1.582	
71 1/2	1.585	
71 5/8	1.588	
72 1/8	1.598	
72 1/4	1.601	
72 3/8	1.604	
72 1/2	1.607	
72 5/8	1.610	
73 1/8	1.620	
73 1/4	1.623	
73 3/8	1.626	
73 1/2	1.629	
73 5/8	1.632	
74 1/8	1.642	
74 1/4	1.645	
74 3/8	1.648	
74 1/2	1.651	
74 5/8	1.654	
75 1/8	1.664	
75 1/4	1.667	
75 3/8	1.670	
75 1/2	1.673	
75 5/8	1.676	
76 1/8	1.686	
76 1/4	1.689	
76 3/8	1.692	
76 1/2	1.695	
76 5/8	1.698	
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77 1/4	1.711	
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77 1/2	1.717	
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78 1/4	1.733	
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79 1/8	1.752	
79 1/4	1.755	
79 3/8	1.758	
79 1/2	1.761	
79 5/8	1.764	
80 1/8	1.774	
80 1/4	1.777	
80 3/8	1.780	
80 1/2	1.783	
80 5/8	1.786	



WARNING: BREASTING OR FOLDING WILL LEAD TO REJECTION!



DOMESTIC AND FOREIGN MARKETING

Section 1. General Information

1. Name of the applicant: _____

2. Address of the applicant: _____

3. Name of the product: _____

4. Description of the product: _____

5. Quantity of the product: _____

6. Date of application: _____

Section 2. Marketing Plan

7. Name of the marketing agent: _____

8. Address of the marketing agent: _____

9. Name of the distributor: _____

10. Address of the distributor: _____

11. Name of the retailer: _____

12. Address of the retailer: _____

13. Name of the wholesaler: _____

14. Address of the wholesaler: _____

Section 3. Financial Information

15. Name of the financial institution: _____

16. Address of the financial institution: _____

17. Name of the accountant: _____

18. Address of the accountant: _____

19. Name of the auditor: _____

20. Address of the auditor: _____

Section 4. Other Information

21. Name of the other party: _____

22. Address of the other party: _____

23. Name of the other party: _____

24. Address of the other party: _____

25. Name of the other party: _____

26. Address of the other party: _____

Section 5. Declaration

27. I declare that the information provided is true and correct: _____

28. I declare that the marketing plan is feasible: _____

29. I declare that the financial information is accurate: _____

30. I declare that the other information is complete: _____

Section 6. Signature

31. Signature of the applicant: _____

32. Signature of the marketing agent: _____

33. Signature of the distributor: _____

34. Signature of the retailer: _____

35. Signature of the wholesaler: _____

Section 7. Remarks

36. _____

37. _____

38. _____

39. _____

40. _____

Section 8. Approval

41. Name of the official: _____

42. Address of the official: _____

43. Name of the official: _____

44. Address of the official: _____

45. Name of the official: _____

46. Address of the official: _____

[illegible]



THIS FORM MAY BE USED WHERE COVENANTS ARE IMPOSED OR
EASEMENTS CREATED OR WHERE

No.

New South Wales

MEMORANDUM OF TRANSFER

(REAL PROPERTY ACT, 1900.)

Endorsement
Certificate

(This must not be disclosed in
the transfer.)

Typing or handwriting in this
document should not extend
into any margin. Handwriting
should be clear and legible and
in permanent black non-copying
ink.

If a loan is made, strike out "in
fee simple" and interline the
required alteration.

I,
STATE SUPERANNUATION BOARD (hereinafter called "the Grantor")

(herein called transferor)

being registered as the proprietor of an estate in fee simple in the land hereinafter described, subject,
however, to such encumbrances, liens and interests as are notified hereunder, in consideration of
TWENTY DOLLARS

(£ 20.00) (the receipt whereof is hereby acknowledged) paid to it by

THE PROSPECT COUNTY COUNCIL doth hereby transfer and grant to

do hereby transfer to

Show in BLOCK LETTERS the
full name, postal address and
description of the person
taking, and if more than one,
whether they hold as joint
tenants or tenants in common.

THE PROSPECT COUNTY COUNCIL (hereinafter called "the Council")

(herein called transferee)

The description may refer to
--- shown in Town or Parish
--- Maps issued by the Department
of Lands or shown in plans filed
in the Office of the Registrar-
General. If part only of the
land comprised in a Certificate
or Certificate of Title is to be
transferred add "and being Lot
--- of P.P. ---" or "being
the land shown in the plan
annexed hereto" or "being the
residue of the land in certificate
(or grant) registered Vol.
---".

Where the consent of the Local
Council to a subdivision is
required the certificate and plan
mentioned in the Local Govern-
ment Act, 1919, should accom-
pany the transfer.

ALL such Estate and Interest in ALL the land mentioned in the schedule following:

County.	Parish.	Reference to Title.			Description of Land (If part only).
		Whole or Part.	Vol.	Vol.	
CUMBERLAND	ST. LUKE	PART	10665	219	BEING such parts of Lot 1 in Deposited Plan No. 229979 and of Lot 23 in plan lodged with Transfer No. G566576 as are shown on the plans annexed hereto and marked "A" and "B" as "Proposed easement for underground mains 10-9-75 wide and "Proposed easement for underground mains 1 wide" (hereinafter called or included in the expression "the servient tenements")
CUMBERLAND	ST. LUKE	PART	7497	227	

H. L. Maly

H. L. Maly

~~And the transferee covenant(s) with the transferee.~~

~~Strike out if unnecessary, or
suitably adjust,~~

- (i) if any easements are to
be created or any ex-
ceptions to be made; or
- (ii) if the statutory coven-
ants implied by the Act
are intended to be varied
or modified.

Covenants should comply with
the provisions of Section 88 of
the Conveyancing Act, 1984-
1954.

ENCUMBRANCES, &c., REFERRED TO.

* A very short note will suffice.

Ref: R114833-1
H. L. Maly
Encumbrances, etc., referred to.

Lease L238190 to The Prospect County Council.
Lease L567689 to G. J. Coles & Coy. Limited.

- 2 -

FULL AND FREE RIGHT AND LIBERTY -

- (a) to use and maintain for the purpose of the transmission of electrical energy the line of cables, wires, fittings and appliances at present constructed installed or laid in the servient tenement (but beneath the surface thereof);
- (b) for the purposes aforesaid to construct, erect, install, use and maintain in the servient tenement (but beneath the surface thereof) any cables, wires, fittings or appliances in substitution for or in duplication of or in addition to the said line of cables, wires, fittings and all other necessary appliances in connection therewith;
- (c) from time to time to inspect the condition of and amend and repair the said line of cables, wires, fittings and appliances; and
- (d) for the purposes aforesaid or any of them at all times to enter upon go return pass and repass through along and over such part or parts of the servient tenement upon which no improvements are ^{erected} ~~checked~~ or any part thereof with or without officers, servants, agents, contractors and workmen and horses, carts, waggons, motors, materials and vehicles;

PROVIDED ALWAYS and it is hereby agreed and declared and the Council doth hereby covenant with the Grantor that the Council -

- (i) shall not knowingly permit or suffer any persons other than its officers, servants, agents, contractors and workmen aforesaid or any other person authorised by them or any of them to enter in or upon the servient tenement;
- (ii) will at all times at its own expense keep the said line of cables, wires, fittings and appliances in good and efficient state of repair;
- (iii) will execute all its works under those presents at reasonable times and with reasonable despatch and in a proper and workmanlike manner to the satisfaction of the Grantor and will as far as may be practicable having regard to the rights hereby granted restore the servient tenement and any adjoining land of the Grantor to its former condition as soon as conveniently may be after the execution of any such works and shall at the option of the Grantor make good or bear the reasonable costs incurred by the Grantor in making good any works or property of the Grantor that may be interfered with in the execution of any works by the Council;
- (iv) will not in the execution or any such works cause any unnecessary damage or injury to or unnecessarily impede the free and uninterrupted use by the Grantor of any works or property of the Grantor;
- (v) before doing any act or thing in the exercise of any right powers or authorities hereby granted and during the progress thereof will do everything reasonably necessary to obviate risk of injury and/or damage to persons and property being

For "the ~~Grantor~~" *[Signature]* For "the Council" *[Signature]*
For "the GRANTOR" *[Signature]* *[Signature]*
COUNTY CLERK

- 3 -

in upon or in the vicinity of the servient tenement or any adjoining land of the Grantor;

(vi) doth hereby covenant with the Grantor to indemnify and keep indemnified Grantor and its successors against all claims for injury loss or damage suffered by any person or body ~~lawfully~~ using or being upon the servient tenement or any adjoining land of the Grantor arising out of the exercise by the Council of any right hereby conferred and against all liability for costs charges and expenses incurred by the Grantor and its successors in respect of the claim of any such person or body; and

(vii) will supply electricity to its customers from the said cables, wires, fittings and appliances only after the requirements of the Grantor and its successors and the lessees and tenants of the Grantor and its successors are first met therefrom -

PROVIDED HOWEVER that except where the Council in the course of exercising its rights hereunder removes damages breaks down or destroys any existing fence or fences on the servient tenement or on any adjoining land of the Grantor or where by reason of any danger occasioned by the use by the Council of the servient tenement as herein provided it is or may become necessary to erect any fence or fences the Council shall not be under any obligation or in anywise be bound to erect place or maintain any fence or fences the Council shall not be under any obligation or in anywise be bound to erect place or maintain any fence or fences on the boundaries or any other part or parts of the servient tenement AND PROVIDED FURTHER and the Grantor doth hereby covenant with the Council that the Grantor -

- (1) will not do or knowingly suffer to be done any act or thing which may interfere with injure damage or destroy the said line of cables, wires, fittings and appliances or any of them or obstruct prevent or interfere with the free flow of electricity through and along the said line of poles and wires; and
- (2) will not erect or place or permit the erection or placing in or on the servient tenement of any building, structure, plant or apparatus without the previous consent in writing of the Council.

For "the ^{Grantor} Grantor"

For "the Grantor"

For "the Council".....

A. L. Male
COUNCIL MAN

COUNTY CLERK
[Signature]

LAN FORM 1

'A'
WARNING: C...

Council Clerk's Certificate

I hereby certify that

- (a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
(b) the requirements of section 34B of the Metropolitan Water, Sewerage, and Drainage Act, 1924 as amended (Hunter District Water, Sewerage and Drainage Act, 1918, as amended)

have been complied with by the applicant in relation to the

proposed:
Insert "new road" "subdivision" or "consolidated lot" set out herein

Subdivision No.

Date

(Signature)

Council Clerk

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

Surveyor's Certificate

I, KEITH BRIAN CADOGAN
THE PROSPECT COUNTY COUNCIL
of SMITH ST PARRAMATTA

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan was compiled from D.P. 327773 & P.P. 441010

is accurate and has been made (1) by me (2) under my supervision in accordance with the Survey Practice Regulations, 1933, and was completed on 1

25.6.79

Signature

Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth

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

Signatures, seals and statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user

this in the annexure marked "A" referred to in memorandum of Transfer of even date herewith made between SHIRE SUPERANNUATION BOARD and THE PROSPECT COUNTY COUNCIL. DATED 19th day of June 1975.

H. L. Maly
Chairman

County Clerk.

Provisional

County Clerk.

Table of mm

FILE 423/65

SURVEYOR'S REFERENCE R.P. 976

Result of

FOLDING WILL LEAD TO REJECTION

OFFICE USE ONLY

PLAN OF PART OF LOT 1 D.P. 229979 & PART OF
 LOT 23 F.P. 441010.

City : LIVERPOOL

Locality: LIVERPOOL

Parish: ST. LUKE

County: CUMBERLAND

Reduction Ratio 1: 250

Lengths are in metres

Registered

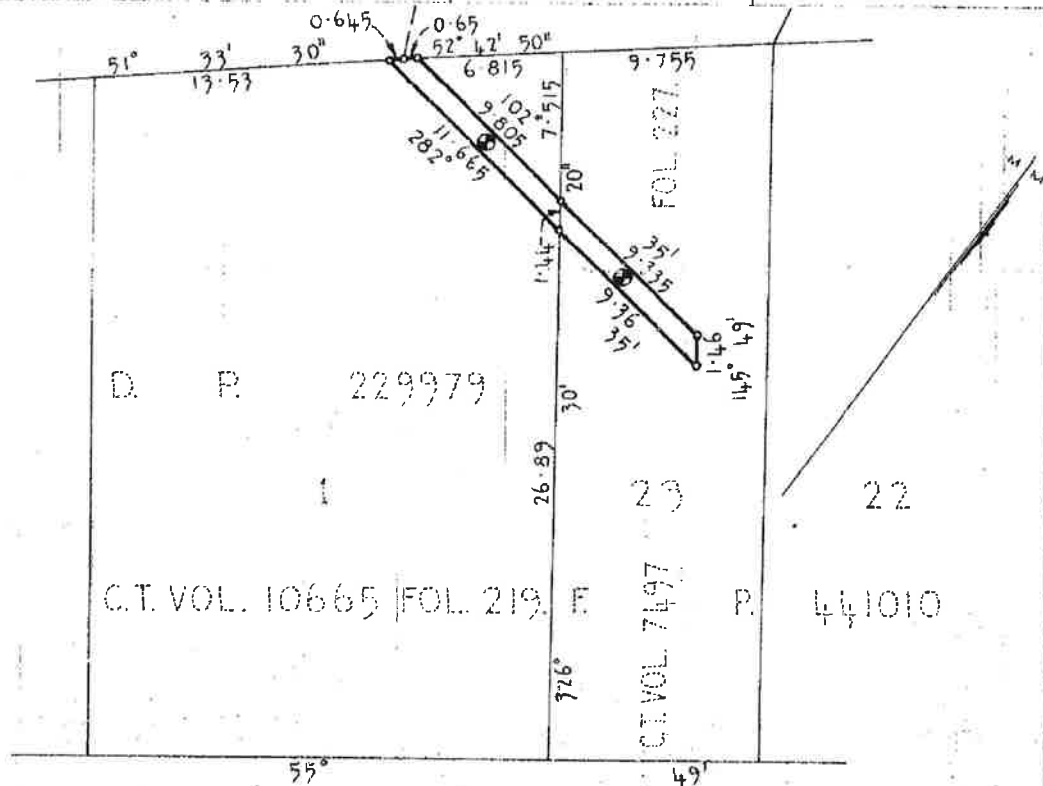
CA

Title System

Purpose

Ref. Map

Last Plan



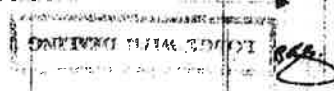
Plan Drawing only to appear in this space

PROPOSED EASEMENT FOR
 UNDERGROUND MAINS 1 WIDE.

TERMINUS

ST.

Plan Drawing only to appear in this space



PLAN FORM 1

18

WARNING: CREASING

Council Clerk's Certificate

Thereby certify that

- (a) the requirements of the Local Government Act, 1919 insofar as the requirements for the registration of plans, and
- (b) the requirements of Section 344 of the Metropolitan Water, Sewerage, and Drainage Act, 1924, as amended, the Hunter District Water, Sewerage, and Drainage Act, 1928, as amended

have been complied with by the applicant in relation to the

proposed

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

Subdivision No

Date

(Signature)

Council Clerk

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

Surveyor's Certificate

HUGH CAMPBELL MCKIBBIN

of THE PROSPECT COUNTY COUNCIL 10 SMITH ST. PARAMATTA

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan was COMPILED FROM D.P. 229979

~~and has been made in accordance with the provisions of the Surveyors Act, 1929, and was completed on 1~~

28-1-75

Signature

Surveyor registered under Surveyors Act, 1929, as amended.
Datum Line of Azimuth.

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

Signatures, seals and statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

This is the annexure marked "A" referred to in Memorandum of Transfer of even date herewith made between LANDS ADMINISTRATION BOARD and THE PROSPECT COUNTY COUNCIL. DATED 17 day June of 1975.

H. L. Malye Chairman

County Clerk.

H. R. R. R.

10	20	30	40	50	60	Table of mm	100	110	120	130	140	150	160
----	----	----	----	----	----	-------------	-----	-----	-----	-----	-----	-----	-----

FILE NO 423/65

SURVEYOR'S REFERENCE

A.P. 1258

Revised

4180

If the Transferor or Transferee signs by a mark, the attestation must state "that the instrument was read over and explained to him, and that he appeared fully to understand the same."

Execution in New South Wales may be proved if this instrument is signed or acknowledged before the Registrar-General, or Deputy Registrar-General, or a Notary Public, a J.P., or Commissioner for Affidavits, to whom the Transferor is known, otherwise the attesting witness should appear before one of the above functionaries who having received an affirmative answer to each of the questions set out in Sec. 108 (1) (b) of the Real Property Act should sign the certificate at the foot of this page.

Execution may be proved where the parties are residents—

(a) in any part of the British dominions outside the State of New South Wales by signing or acknowledging before the Registrar-General or Recorder of Titles of such Possession, or before any Judge, Notary Public, Justice of the Peace for New South Wales, or Commissioner for taking affidavits for New South Wales, or Mayor or Chief Officer of any municipal or local government corporation of such part, or Justice of the Peace for such part, or the Governor, Government Resident, or Chief Secretary of such part or such other person as the Chief Justice of New South Wales may appoint.

(b) in the United Kingdom by signing or acknowledging to the Mayor or Chief Officer of any corporation or a Notary Public.

The attesting witness by signing or acknowledging before a British Consular Officer includes a British Consul, Vice-Consul, Charge d'Affaires, Secretary of Embassy or Legation, Consul-General, Acting Consul-General, Consul, Acting Consul, Vice-Consul, Acting Vice-Consul, General Consular Agent and Acting Consular Agent.

(ii) an Australian Consular Officer which includes an Ambassador, High Commissioner, Minister, Head of Mission, Commissioner, Charge d'Affaires, Counsellor or Secretary at an Embassy, High Commissioner's Office or Legation, Consul-General, Consul, Vice-Consul, Trade Commissioner and Consular Agent, who should affix his seal of office, or the attesting witness may make a declaration at the date of execution thereof before one of such persons who should sign and affix his seal to such declaration, such other person as the Chief Justice may appoint.

After any unnecessary words. Add any other matter necessary to show that the power is effective.

to be signed by Registrar-General, Deputy Registrar-General, Notary Public, J.P., Commissioner for Affidavits, or Commissioner for taking affidavits before whom the attesting witness appears. Not required if the instrument itself is signed or acknowledged before one of these parties.

Signed at Sydney the 17 day of June 1975.

Signed in my presence by the transferor

WHO IS PERSONALLY KNOWN TO ME

THE COMMON SEAL of STATE SUPERANNUATION BOARD was affixed hereto in pursuance of a resolution of the Board in the presence of:

Secretary

Signed in my presence by the transferee

WHO IS PERSONALLY KNOWN TO ME

THE COMMON SEAL of THE PROSPECT COUNTY COUNCIL was hereto affixed on the Twentieth day of March 1975 pursuant to a resolution of the Council passed at a duly convened meeting on the Twelfth day of April 1973.

County Clerk

G.J. COLES & COY LIMITED, the Lessee under Memorandum of Lease No. 1587639 hereby consents to this Memorandum of Transfer dated this 12 day of April, 1975.

THE COMMON SEAL of G.J. COLES & COY LIMITED was hereto affixed by order of the Directors

MEMORANDUM AS TO NON-REVOCATION OF POWER OF ATTORNEY.

(To be signed at the time of executing the within instrument.)

Memorandum where by the undersigned states that he has no notice of the revocation of the Power of Attorney registered No. Miscellaneous Register under the authority of which he has just executed the within transfer.

Signed at the day of 19

Signed in the presence of—

CERTIFICATE OF J.P., &c., TAKING DECLARATION OF ATTESTING WITNESS*

Appeared before me at the day of one thousand nine hundred and the attesting witness to this instrument and declared that he personally knew the person signing the same, and whose signature thereto he has attested; and that the name purporting to be such signature of the said is own handwriting, and that he was of sound mind and freely and voluntarily signed the same.

* If signed by virtue of any power of attorney, the original power must be registered in the Miscellaneous Register, and produced with each dealing, and the memorandum of non-revocation on back of form signed by the attorney before a witness.

† N.B.—Section 117 requires that the above Certificate be signed by each Transferee or his Solicitor or Conveyancer, and renders any person falsely or negligently certifying liable to a penalty of £50; also to damages recoverable by parties injured. Acceptance by the Solicitor or Conveyancer (who must sign his own name) and not that of his firm is permitted only when the signature of the Transferee cannot be obtained without difficulty, and when the instrument does not impose a liability on the party taking under it. When the instrument contains some special covenant by the Transferee or is subject to a mortgage, encumbrance or lease, the Transferee must accept personally.

No alterations should be made by erasure. The words rejected should be scored through with the pen, and those substituted written over them, the alteration being verified by signature or initials in the margin, or noticed in the attestation.

No. **P418761**

LODGED BY **D.C. Maclean & Co**

**334 Newfoundland Rd.
Newfoundland
642-1740**

FEES.

The Fees, which are payable on lodgment, are as follows:—

- (a) £2 where the memorandum of transfer is accompanied by the relevant Certificate of Title or Crown Grant, otherwise £2 5s. 6d. Where such instrument is to be entered on more than one folium of the register, an additional charge of 5s. is made for every Certificate of Title or Crown Grant after the first.
- (b) A supplementary charge of 10s. is made in each of the following:—
 - (i) where a restrictive covenant is imposed; or
 - (ii) a new easement is created; or
 - (iii) a partial discharge of mortgage is endorsed on the transfer.
- (c) Where a new Certificate of Title must issue the scale charges are—
 - (i) £2 for every Certificate of Title not exceeding 16 folios and without diagram;
 - (ii) £2 10s. 6d. for every Certificate of Title not exceeding 16 folios with one simple diagram;
 - (iii) as approved where more than one simple diagram, or an extensive diagram will appear.Where the foregoing exceeds 16 folios, an amount of 5s. per folium, extra fee is payable.

DOCUMENTS LODGED HEREWITH.

To be filled in by person lodging dealing.

1. **267 PROD**
2. **by Title Office**
3. **1 estate**
4. **Received**
5. **29/9/75**
6. **1-20**
Receiving Clerk.

PARTIAL DISCHARGE OF MORTGAGE.
(N.B.—Before execution read marginal note.)

I,

mortgagee under Mortgage No.

release and discharge the land comprised in the within transfer from such mortgage and all claims thereunder but without prejudice to my rights and remedies as regards the balance of the land comprised in such mortgage.

This discharge is appropriate to a transfer of part of the land in the Mortgage. The mortgagee should execute a formal discharge where the land transferred is the whole of or the residue of the land in the Certificate of Title or Crown Grant or is the whole of the land in the mortgage.

Dated at this day of 19
Signed in my presence by

who is personally known to me.

Mortgagee.

LEAVE THESE SPACES FOR DEPARTMENTAL USE.

INDEXED	MEMORANDUM OF TRANSFER & Grant of Easement for underground mines
Checked by CIT	Particulars entered in Register Book, Volume _____ Folio _____
Passed (in S.D.B.) by 22.75	the 26th day of September 19 75 at _____
Signed by [Signature]	minutes past _____ o'clock in the _____ noon [Signature] Registrar-General.

PROGRESS RECORD.

	Initials.	Date.
Sent to Survey Branch		
Received from Records		
Draft written		
Draft examined		
Diagram prepared		
Diagram examined		
Draft forwarded		
Supt. of Engravers		
Cancellation Clerk		
Vol.		Pol.

M.P.D.



10665221

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



FH

Vol. 10665 Fol. 221

Edition issued 19-10-1967

Application No. 45169

10665 Fol. **221**

(PAGE 1) Vol. 1

Witness *Mrs. S. Alter*

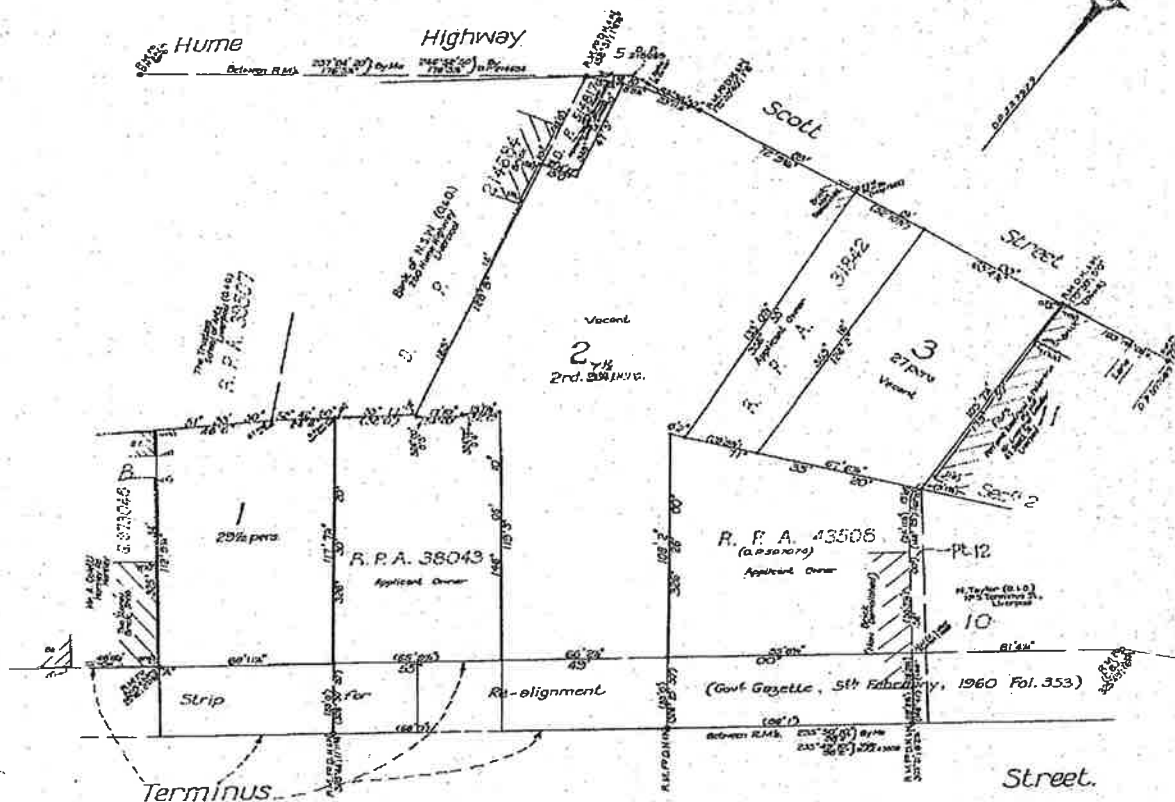
CANCELLED

Registrar General.



PLAN SHOWING LOCATION OF LAND

SEE AUTO FOLIO



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 229979 in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804. EXCEPTING THEREOUT the mines and deposits specified in Section 134 of the Public Works Act, 1900.

FIRST SCHEDULE (continued overleaf)

~~CONSOLIDATED REALTIES PVT. LIMITED.~~

SECOND SCHEDULE (continued overleaf)

6 RY1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

XB

Joubertson

Registrar General.

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

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

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

FIRST SCHEDULE (continued)

[illegible]**SECOND SCHEDULE (continued)**

INSTRUMENT		DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION
NATURE	NUMBER					
Lease	156765A	27-6-1969	to C. J. Coles & Co. Limited	25-9-1969		
V594517	Mortgage to State Superannuation Board.		Registered 27.3.1985.			
V594517	Mortgage W691556		Variation Registered 16-1-1987			
V594517	Mortgage X235759.		Transfer of Mortgage to Security Pacific Central Mortgage Ltd. Registered 23.12.1987.			
CANCELLED						
SEE AUTO FOLIO						

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

Tx
 24/9/97
 V594516 TE
 - 7m }
 R
 W6915561MR
 X235759714
 (659447) 6

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

25/7/2016 3:16PM

FOLIO: 3/229979

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 10665 FOL 221

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
21/3/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
11/4/1990	Y932933	DISCHARGE OF MORTGAGE	EDITION 1
27/4/1994		AMENDMENT: LOCAL GOVT AREA	
13/7/1994	U338736	REQUEST	EDITION 2
12/7/1995	0215627	LEASE	EDITION 3
5/2/1998	3776400	REQUEST	EDITION 4
14/11/2001	8113926	TRANSFER	EDITION 5
20/5/2008	AD963145	MORTGAGE	EDITION 6
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 7
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 8
27/9/2011	AG516453	LEASE	EDITION 9
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 10
27/3/2013	AH543572	CHANGE OF NAME	
31/8/2015	AJ222068	LEASE	EDITION 11

*** END OF SEARCH ***

liverpool

PRINTED ON 25/7/2016

Ref:liverpool /Src:M 97-01T

Licence: 015CN/0331/96

Edition: 9812

(7)

TRANSFENew South Wales
Real Property Act 19**8113926K****STAMP DUTY**

Office of State Revenue use only

09-11-2001

0000802435-001

SECTION 18(2)

DUTY

\$ *****2.00

(A) TORRENS TITLE

If appropriate, specify the part or share transferred

Folio Identifier 1/229979, 2/229979, 3/229979, 1/507070, 17/81842, 22/441010 and 23/441010

(B) LODGED BY

LTO Box

669J

Name, Address or DX and Telephone

PARRY CARRALL KANDIAN

DX 608 SYDNEY

Tel 9221 3849

REFERENCE (optional): 9/CH/A672

CODES

T

TS (\$713)

TW (Sheriff)

(C) TRANSFEROR**CENTRAL MEAT MART PTY LIMITED A.C.N. 000 146 501****(D)**

The transferor acknowledges receipt of the consideration of \$6,500,000.00 and as regards the land specified above transfers to the transferee an estate in fee simple.

(E)

Encumbrances (if applicable)

1.

2.

3.

(F) TRANSFEE**GAZCON PTY LIMITED A.C.N. 009 166 545****(G)****TENANCY:****(H)**

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 persons whose signatures appear below:

Signed in my presence by the transferor who is personally known to me.

Corporation: **CENTRAL MEAT MART PTY. LIMITED**

Signature of witness: Authority: Constitution

Signature of transferor:

DATE:

22 October 2001



Name of witness:

Address of witness:

Secretary

CHRIS G. HARRIS

CON G. HARRIS

Director

Signed in my presence by the transferee who is personally known to me.

Signature of witness:

Signature of transferee:

Name of witness:

Address of witness:

If signed on the transferee's behalf by a solicitor or licensed conveyancer, insert the signatory's full name and capacity below:
Ross A. MacDonald, Transferee's SolicitorAll handwriting must be in block capitals.
A set of notes on this form (97-01T-2)
is available from the Land Titles Office.

1242

Page 1 of 1
number additional pages sequentially

Checked by (LTO use):

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 3/229979

SEARCH DATE	TIME	EDITION NO	DATE
25/7/2016	3:16 PM	11	31/8/2015

LAND

LOT 3 IN DEPOSITED PLAN 229979
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP229979

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 LAND EXCLUDES MINERALS (S.134 PUBLIC WORKS ACT, 1900)
- 3 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B,
48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION
OF RENEWAL: 5 YEARS.
- 4 AJ222068 LEASE TO GOVERNMENT PROPERTY NSW OF TENANCY A, SHOWN
HATCHED IN PLAN WITH AJ222068. EXPIRES: 17/2/2016.
OPTION OF RENEWAL: 3 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

liverpool

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

25/7/2016 3:16PM

FOLIO: 17/81842

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 4649 FOL 238

Recorded	Number	Type of Instrument	C.T. Issue
-----	-----	-----	-----
21/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
20/10/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
11/4/1990	Y932933	DISCHARGE OF MORTGAGE	EDITION 1
13/7/1994	U338736	REQUEST	EDITION 2
12/7/1995	O215627	LEASE	EDITION 3
5/2/1998	3776400	REQUEST	EDITION 4
14/11/2001	8113926	TRANSFER	EDITION 5
20/5/2008	AD963145	MORTGAGE	EDITION 6
13/5/2009	AE510951	LEASE	EDITION 7
13/5/2009	AE510952	LEASE	
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 8
27/9/2011	AG516453	LEASE	EDITION 9
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	EDITION 10
4/10/2011	AG534278	TRANSFER	
27/3/2013	AH543572	CHANGE OF NAME	
31/8/2015	AJ222068	LEASE	EDITION 11

*** END OF SEARCH ***

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 17/81842

SEARCH DATE	TIME	EDITION NO	DATE
25/7/2016	3:16 PM	11	31/8/2015

LAND

LOT 17 IN DEPOSITED PLAN 81842
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP81842

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (3 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B,
48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION
OF RENEWAL: 5 YEARS.
- 3 AJ222068 LEASE TO GOVERNMENT PROPERTY NSW OF TENANCY A, SHOWN
HATCHED IN PLAN WITH AJ222068. EXPIRES: 17/2/2016.
OPTION OF RENEWAL: 3 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

26/7/2016 8:41AM

FOLIO: 22/441010

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 7497 FOL 231

Recorded	Number	Type of Instrument	C.T. Issue
27/11/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
25/9/1992		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/7/1995	0365550	REQUEST	
12/7/1995	0215627	LEASE	EDITION 1
5/2/1998	3776400	REQUEST	EDITION 2
14/11/2001	8113926	TRANSFER	EDITION 3
20/5/2008	AD963145	MORTGAGE	EDITION 4
10/3/2009	DP1136120	DEPOSITED PLAN	
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 5
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 6
27/9/2011	AG516453	LEASE	EDITION 7
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 8
29/3/2012	AG834334	SURRENDER OF LEASE	
29/3/2012	AG834335	TRANSFER GRANTING EASEMENT	EDITION 9
27/3/2013	AH543572	CHANGE OF NAME	

*** END OF SEARCH ***

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 22/441010

SEARCH DATE	TIME	EDITION NO	DATE
26/7/2016	8:41 AM	9	29/3/2012

LAND

LOT 22 IN DEPOSITED PLAN 441010
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP441010

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (6 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 J305365 LAND EXCLUDES THE ROAD SHOWN IN VOL 7497 FOL 231
- 3 L18000 EASEMENT FOR ELECTRICITY MAINS (AS MORE FULLY SET OUT IN THE SAID INSTRUMENT) AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED SHOWN SO BURDENED IN VOL 7497 FOL 231
- 4 AE510951 LEASE TO HER MOST GRACIOUS MAJESTY QUEEN ELIZABETH II (NSW DEPARTMENT OF CORRECTIVE SERVICES) OF TENANCY A, SHOWN HATCHED IN PLAN WITH AE510951. EXPIRES: 17/2/2013. OPTION OF RENEWAL: TWO FURTHER OPTIONS OF 3 YEARS.
AF427368 APPLICATION AFFECTING LEASE AE510951 LESSEE NOW STATE PROPERTY AUTHORITY
- * AH543572 CHANGE OF NAME AFFECTING LEASE AE510951 LESSEE NOW GOVERNMENT PROPERTY NSW
- 5 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B, 48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION OF RENEWAL: 5 YEARS.
- 6 AG834335 EASEMENT FOR UNDERGROUND CABLES 1.72 WIDE AFFECTING THE PART DESIGNATED (C) IN DP1136120

NOTATIONS

DP1136120 NOTE: PLAN OF PROPOSED EASEMENT
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

26/7/2016 8:41AM

FOLIO: 23/441010

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 7497 FOL 227

Recorded	Number	Type of Instrument	C.T. Issue
27/11/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
25/9/1992		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/7/1995	0365550	REQUEST	
12/7/1995	0215627	LEASE	EDITION 1
5/2/1998	3776400	REQUEST	EDITION 2
14/11/2001	8113926	TRANSFER	EDITION 3
20/5/2008	AD963145	MORTGAGE	EDITION 4
10/3/2009	DP1136120	DEPOSITED PLAN	
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 5
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 6
27/9/2011	AG516453	LEASE	EDITION 7
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 8
29/3/2012	AG834334	SURRENDER OF LEASE	
29/3/2012	AG834336	TRANSFER GRANTING EASEMENT	
29/3/2012	AG834337	RESTRICTION ON USE OF LAND BY/VESTED IN PRESCRIBED AUTHORITY	EDITION 9
27/3/2013	AH543572	CHANGE OF NAME	

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 23/441010

SEARCH DATE	TIME	EDITION NO	DATE
26/7/2016	8:41 AM	9	29/3/2012

LAND

LOT 23 IN DEPOSITED PLAN 441010
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP441010

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (8 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 L26813 LAND EXCLUDES THE ROAD SHOWN IN VOL 7497 FOL 227
- 3 P418761 EASEMENT FOR UNDERGROUND MAINS (AS MORE FULLY SET OUT IN THE SAID INSTRUMENT) AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED SHOWN 1 WIDE IN PLAN WITH P418761
- 4 AE510951 LEASE TO HER MOST GRACIOUS MAJESTY QUEEN ELIZABETH II (NSW DEPARTMENT OF CORRECTIVE SERVICES) OF TENANCY A, SHOWN HATCHED IN PLAN WITH AE510951. EXPIRES: 17/2/2013. OPTION OF RENEWAL: TWO FURTHER OPTIONS OF 3 YEARS.
AF427368 APPLICATION AFFECTING LEASE AE510951 LESSEE NOW STATE PROPERTY AUTHORITY
- * AH543572 CHANGE OF NAME AFFECTING LEASE AE510951 LESSEE NOW GOVERNMENT PROPERTY NSW
- 5 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B, 48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION OF RENEWAL: 5 YEARS.
- 6 AG834336 EASEMENT FOR PADMOUNT SUBSTATION 3.81 WIDE AFFECTING THE PART DESIGNATED (E) IN DP1136120
- 7 AG834336 EASEMENT FOR UNDERGROUND CABLES 1.72 WIDE AFFECTING THE PART DESIGNATED (C) & (D) IN DP1136120
- 8 AG834337 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

DP1136120 NOTE: PLAN OF PROPOSED EASEMENT
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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NEW SOUTH WALES

Application No. 43508

STATEMENT OF TITLE
RIGHTY ACT, 1900, as amended.



Vol. 10336 Fol. 163

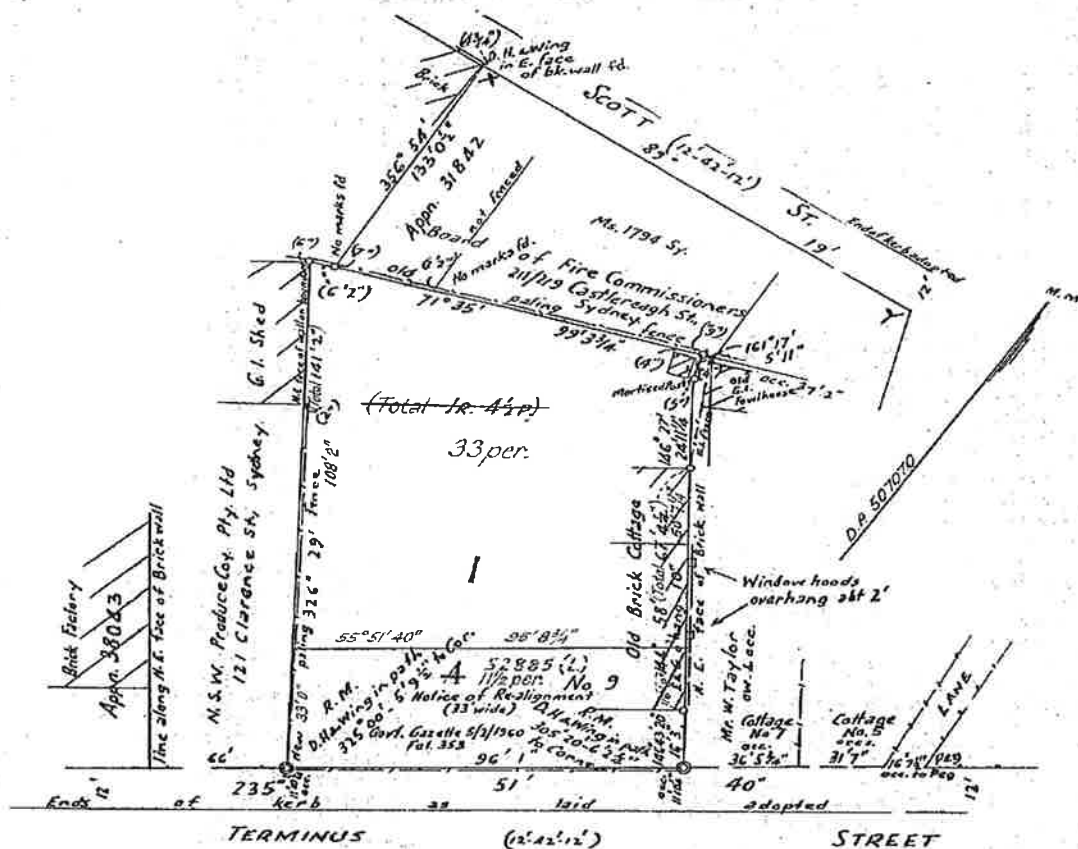
EH • Edition issued 23- 6 -19 66

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

Witness *J. Sullivan*.

SEE AUTO REGIO

PLAN SHOWING LOCATION OF LAND



P. A. 45169

Reg. Gen.
27-3-1968

Estate in Fee Simple in Lot 1 in Deposited Plan 507070 at Liverpool in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804. ~~EXCEPTING THEREOUT the land designated A in the plan hereon.~~

FIRST SCHEDULE (continued overleaf)

~~CONSOLIDATED REALTIES PTY. LIMITED.~~

Registrar General.

SECOND SCHEDULE (continued overleaf)

- GRY 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. ~~The land shown as Notice of Re-alignment 33 feet wide in the plan hereon is subject to restrictions on user imposed by Section 27E(6) Main Roads Act, 1924 (as amended).~~

P.A. 45169

Rec. Gen.
27-3-1968

Registrar General.

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

271, 17 V.C.N. Blight, Government Printer

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

REGISTERED PROPRIETOR	NATURE	INSTRUMENT		ENTERED	Signature of Registrar-General
		NUMBER	DATE		
State Information Board  Central Meat Mart Pty. Limited by Transfer V594516. Registered 27.3.1985.	Transfer	L483917	27-6-1969	27-8-1969	 
CANCELLED					
SEE AUTO FOLIO					

CANCELLED

SEE AUTO-FOLIO-

SECOND SCHEDULE (continued)

[illegible]

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

26/7/2016 1:58PM

FOLIO: 1/507070

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 10336 FOL 163

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
27/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
11/4/1990	Y932933	DISCHARGE OF MORTGAGE	EDITION 1
19/5/1994		AMENDMENT: LOCAL GOVT AREA	
13/7/1994	U338736	REQUEST	EDITION 2
12/7/1995	O215627	LEASE	EDITION 3
5/2/1998	3776400	REQUEST	EDITION 4
14/11/2001	8113926	TRANSFER	EDITION 5
20/5/2008	AD963145	MORTGAGE	EDITION 6
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 7
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 8
27/9/2011	AG516453	LEASE	EDITION 9
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 10
27/3/2013	AH543572	CHANGE OF NAME	
31/8/2015	AJ222068	LEASE	EDITION 11

*** END OF SEARCH ***

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PRINTED ON 26/7/2016

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/507070

SEARCH DATE	TIME	EDITION NO	DATE
26/7/2016	2:04 PM	11	31/8/2015

LAND

LOT 1 IN DEPOSITED PLAN 507070
AT LIVERPOOL
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP507070

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (3 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B,
48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION
OF RENEWAL: 5 YEARS.
- 3 AJ222068 LEASE TO GOVERNMENT PROPERTY NSW OF TENANCY A, SHOWN
HATCHED IN PLAN WITH AJ222068. EXPIRES: 17/2/2016.
OPTION OF RENEWAL: 3 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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PRINTED ON 26/7/2016

10665220

NEW SOUTH WALES

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.

Vol. **10665** Fol. **220**

Edition issued 19-10-1967

Application No. 45169



EH

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

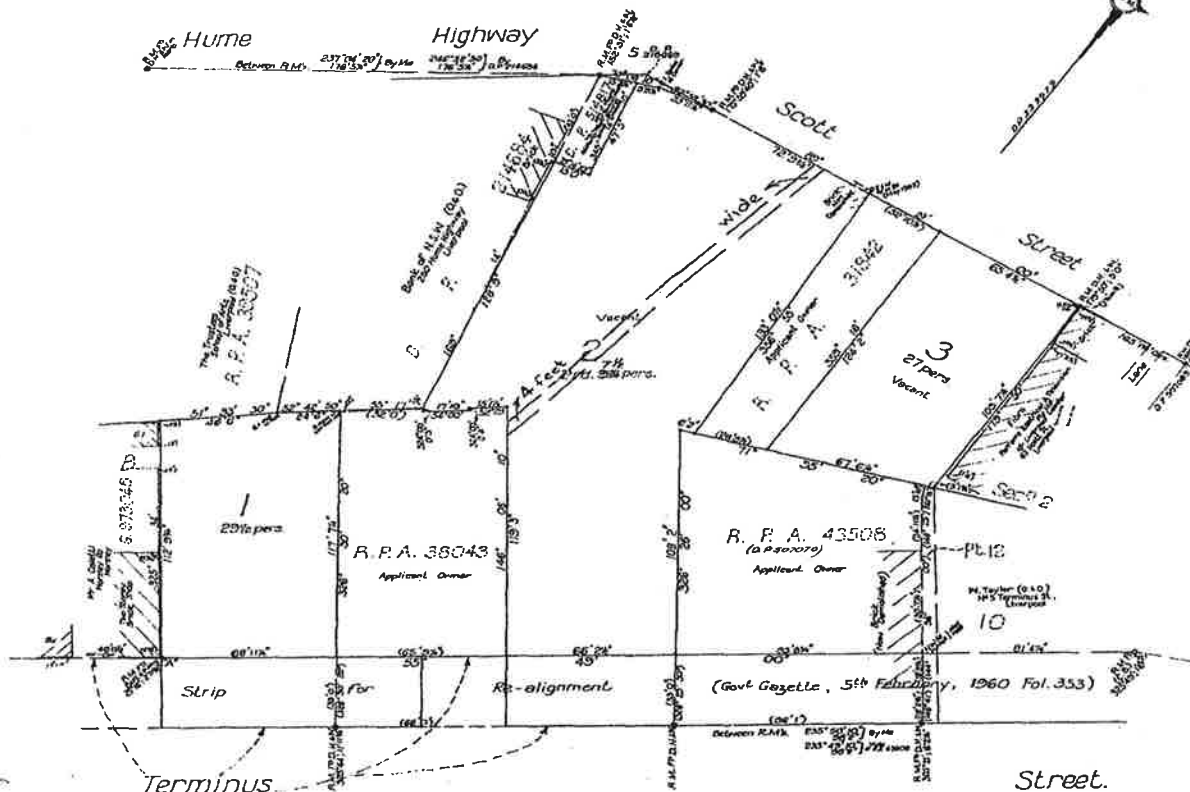
Witness *M. S. Alter*

CANCELLED

SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND



1962 M7500

Reg. Gen.
4-4-1968

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 2 in Deposited Plan 229979 in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804.

FIRST SCHEDULE (continued overleaf)

~~CONSOLIDATED REALTIES PTY. LIMITED.~~

SECOND SCHEDULE (continued overleaf)

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

J. Watson

Registrar General.

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

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

PT 1,17 V.C.N. Blight, Government Printer

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR		INSTRUMENT			ENTERED	SIGNATURE OF REGISTRAR-GENERAL
NATURE	NUMBER	DATE				
State Superannuation Board Central Meat Mart Pty. Limited by Transfer V594516. Registered 27.3.1985.	L493917	27-6-1969	7-8-1969			
CANCELLED						
SEE AUTO FOLIO						

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS			ENTERED	SIGNATURE OF REGISTRAR-GENERAL	CANCELLATION
NATURE	NUMBER	DATE					
Transfer	L18000	23-2-1968	Easement for Electricity mains (as more fully set out in the said instrument) affecting that part of the land within described shown as broken black lines and notation 4 feet wide in the plan herewith PP 235418				
Lease	L567654	27-6-1969	Gr. J. Cole & Co. Limited				
V594517 Mortgage to State Superannuation Board. Registered 27.3.1985.					12-9-1968		
V594517 Mortgage W691556 Variation Registered 16-1-1987					23-9-1969		
V594517 Mortgage X235759. Transfer of Mortgage to Security Pacific Central Mortgage Ltd. Registered 23.12.1987.							

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

220 Fol 10665

Vol.

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(Page 2 of 2 pages)

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

26/7/2016 2:23PM

FOLIO: 2/229979

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 10665 FOL 220

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
24/3/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
11/4/1990	Y932933	DISCHARGE OF MORTGAGE	EDITION 1
27/4/1994		AMENDMENT: LOCAL GOVT AREA	
13/7/1994	U338736	REQUEST	EDITION 2
12/7/1995	0215627	LEASE	EDITION 3
5/2/1998	3776400	REQUEST	EDITION 4
14/11/2001	8113926	TRANSFER	EDITION 5
20/5/2008	AD963145	MORTGAGE	EDITION 6
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 7
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 8
27/9/2011	AG516453	LEASE	EDITION 9
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 10
27/3/2013	AH543572	CHANGE OF NAME	
31/8/2015	AJ222068	LEASE	EDITION 11

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/229979

SEARCH DATE	TIME	EDITION NO	DATE
26/7/2016	2:23 PM	11	31/8/2015

LAND

LOT 2 IN DEPOSITED PLAN 229979
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP229979

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 L18000 EASEMENT FOR ELECTRICITY AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED SHOWN IN DP235458
- 3 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B, 48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION OF RENEWAL: 5 YEARS.
- 4 AJ222068 LEASE TO GOVERNMENT PROPERTY NSW OF TENANCY A, SHOWN HATCHED IN PLAN WITH AJ222068. EXPIRES: 17/2/2016. OPTION OF RENEWAL: 3 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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10685219

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



Vol. 10665 Fol. 219

Edition issued 19-10-1967

EHL

Application No. 45169

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 First Schedule.

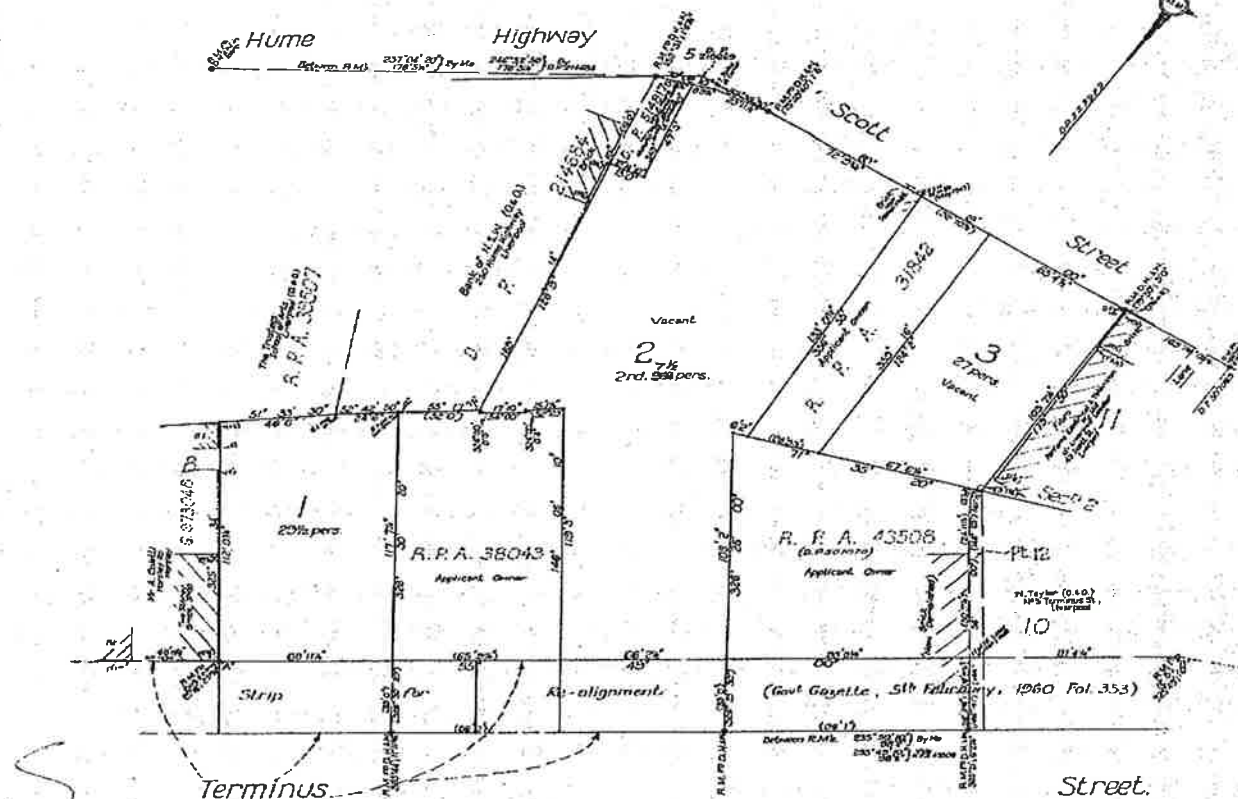
Witness Mrs. Alter

CANCELLED

Registrar General
SEE AUTO FOLIO



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 229979 in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804.

FIRST SCHEDULE (continued overleaf)

~~CONSOLIDATED REALITIES PTY. LIMITED.~~

SECOND SCHEDULE (continued overleaf)

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

Imitation

Registrar General.

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

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

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

PT 1.17 V.C.N. Blight, Government Printer

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE	
Central Meat Mart Pty. Limited by Transfer V594516. Registered 27.3.1985.	Transfer	1483417	27-6-1969	7-8-1969
CANCELLED				
SEE AUTO FOLIO				

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT NUMBER	DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION
Lease Transfer	V567659	27-6-1969	to G.S. Sales & Coy. Limited	23-9-1969	23-9-1975	
	P416761P		Easement for Underground Mains (as more fully set out in the said instrument) affecting that part of the land within described section as proposed to be used for the purpose of laying underground mains for the proposed transfer of the said land to the said G.S. Sales & Coy. Limited			
			the plan lodged with transfer No. 118761.			
V594517	Mortgage to State Superannuation Board.		Registered 27.3.1985.			
V594517	Mortgage Variation Registered 16-1-1987					
V594517	Mortgage to Security Pacific Central Mortgage Ltd. Registered 23.12.1987.					
V594517	Mortgage X235759. Transfer of Mortgage to Security Pacific Central Mortgage Ltd. Registered 23.12.1987.					

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

26/7/2016 2:23PM

FOLIO: 1/229979

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 10665 FOL 219

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
31/3/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
11/4/1990	Y932933	DISCHARGE OF MORTGAGE	EDITION 1
27/4/1994		AMENDMENT: LOCAL GOVT AREA	
7/6/1994	U330783	CAVEAT	
13/7/1994	U338736	REQUEST	EDITION 2
19/7/1994	U436903	CAVEAT	
17/8/1994	U535807	WITHDRAWAL OF CAVEAT	
12/7/1995	0273234	WITHDRAWAL OF CAVEAT	
12/7/1995	0215627	LEASE	EDITION 3
5/2/1998	3776400	REQUEST	EDITION 4
14/11/2001	8113926	TRANSFER	EDITION 5
20/5/2008	AD963145	MORTGAGE	EDITION 6
10/3/2009	DP1136120	DEPOSITED PLAN	
13/5/2009	AE510951	LEASE	
13/5/2009	AE510952	LEASE	EDITION 7
23/10/2009	AF67792	VARIATION OF LEASE	
10/8/2010	AF427368	APPLICATION	
16/9/2011	AG503091	SURRENDER OF LEASE	EDITION 8
27/9/2011	AG516453	LEASE	EDITION 9

END OF PAGE 1 - CONTINUED OVER

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SEARCH DATE

26/7/2016 2:23PM

FOLIO: 1/229979

PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue
4/10/2011	AG534277	DISCHARGE OF MORTGAGE	
4/10/2011	AG534278	TRANSFER	EDITION 10
29/3/2012	AG834337	RESTRICTION ON USE OF LAND BY/VESTED IN PRESCRIBED AUTHORITY	EDITION 11
27/3/2013	AH543572	CHANGE OF NAME	

*** END OF SEARCH ***

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/229979

SEARCH DATE	TIME	EDITION NO	DATE
26/7/2016	2:23 PM	11	29/3/2012

LAND

LOT 1 IN DEPOSITED PLAN 229979
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP229979

FIRST SCHEDULE

THE COUNCIL OF THE CITY OF LIVERPOOL (T AG534278)

SECOND SCHEDULE (5 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 P418761 EASEMENT FOR UNDERGROUND MAINS AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED IN THE PLAN WITH P418761
- 3 AE510951 LEASE TO HER MOST GRACIOUS MAJESTY QUEEN ELIZABETH II (NSW DEPARTMENT OF CORRECTIVE SERVICES) OF TENANCY A, SHOWN HATCHED IN PLAN WITH AE510951. EXPIRES: 17/2/2013. OPTION OF RENEWAL: TWO FURTHER OPTIONS OF 3 YEARS.
AF427368 APPLICATION AFFECTING LEASE AE510951 LESSEE NOW STATE PROPERTY AUTHORITY
- * AH543572 CHANGE OF NAME AFFECTING LEASE AE510951 LESSEE NOW GOVERNMENT PROPERTY NSW
- 4 AG516453 LEASE TO V GROUP PTY LTD BEING KNOWN AS TENANCY B, 48-52 SCOTT ST, LIVERPOOL. EXPIRES: 13/10/2021. OPTION OF RENEWAL: 5 YEARS.
- 5 AG834337 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

DP1136120 NOTE: PLAN OF PROPOSED EASEMENT
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

liverpool

PRINTED ON 26/7/2016



PLAN FORM 2

Signatures and seals only.

John Stirling
Deputy Secretary

ACTING SECRETARY
1911

SIGNED AT SYDNEY THIS 21st DAY OF JULY 1910 FOR NATIONAL AUSTRALIAN-SCOTTISH BANK LIMITED BY ITS ONLY APPOINTED ATTORNEY UNDER POWER OF ATTORNEY

W. J. H. Jones
W. J. H. JONES
Solicitor at Sydney
Sole Officer

SCOTT STREET

(ALIGNED 366-128-366)

TERMINUS STREET

DP 793820

Registered: **JH 20.3.1912**

CA: _____

THIS SYSTEM: **OLD SYSTEM**

Purpose: **PAB108**

Ref. No: **U 917-121**

Lot Plan: **D.P. 160860**

PLAN OF PLOT LIST A DP. 160860

Reduction Ratio: 1:200
Lengths are in meters

Man/Share City: **LIVERPOOL**

Locality: **LIVERPOOL**

Period: **ST LUCE**

Country: **CLARENDON**

This is where 1 of my plots is situated (Indicate if applicable)

SARAH ANTHONY JONES
1. I, SARAH ANTHONY JONES, do hereby certify that the above is a true and correct copy of the original plan of the above land, as registered under the Survey Act, 1881, as amended, and that the same is a true and correct copy of the original plan of the above land, as registered under the Survey Act, 1881, as amended, and that the same is a true and correct copy of the original plan of the above land, as registered under the Survey Act, 1881, as amended.

Signed: *Sarah Anthony Jones*
Witness: *W. J. H. Jones*
Deputy Secretary

Panel for use only for statements of intention to discharge public roads or to create public roads, drainage, railways, easements or restrictions as to use.

Additions to plan by me on 22/1/11

W. J. H. Jones
Registered Surveyor

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

WARNING: CREAMING OR FOLDING WILL LEAD TO REJECTION

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 23rd March 1992

SURVEYOR'S REFERENCE 439-3151/5808 (1)

PLAN FORM 2

Plan Drawing only to appear in this space

OFFICE USE ONLY

Signatures and seals only.

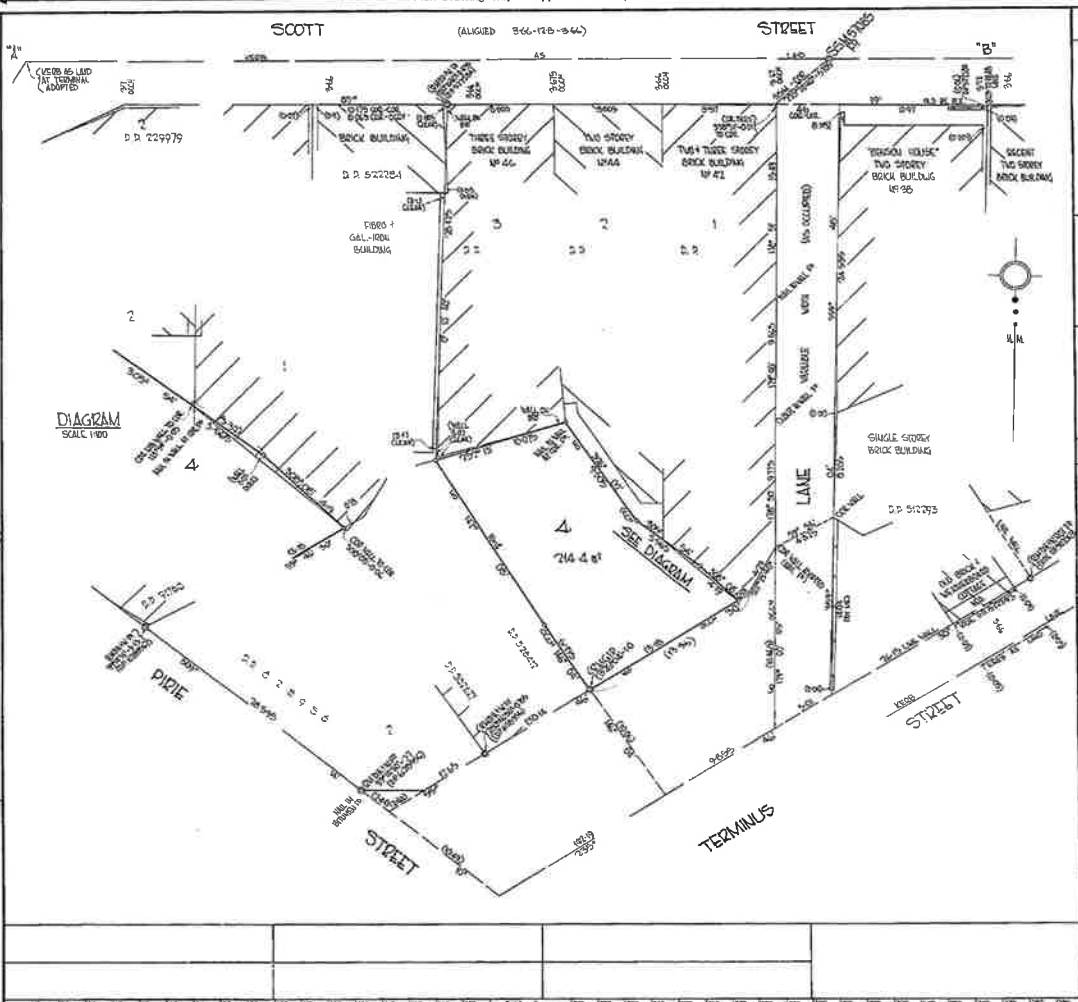
Adrian Dwyer
David S. Jones



1. AT SHOW THIS 2nd DAY of the month of April 1993, the said plan was submitted to the Council for the purpose of being registered under the provisions of the Town Planning Act, 1925, as amended, and the Council has resolved that the said plan be registered.

Council Clerk's Certificate

I hereby certify that—
(a) the requirements of the Local Government Act, 1975, have been complied with by the applicant in relation to the registration of the plan; and
(b) the requirements of section 218 of the Town Planning Act, 1925, as amended, have been complied with by the applicant in relation to the registration of the plan.



DP 793819

Registered: JH 20.7.1992

C.A.: [blank]

Title System: OLD SYSTEM

Purpose: PAB18

Ref. Map: U9177-121

Last Plan: D.P. 1923/1

PLAN OF PART LOTS 64 & 65, SEC 2 OF THE DUNMUNDO ESTATE (D.P. 1923/1)

Reduction Ratio: 200

Map/County: LIVERPOOL

Locality: LIVERPOOL

Parish: ST LUKE

Country: CUMBERLAND

This is sheet 1 of my plan. (Sheet 1 of 1)

Signature: [Signature]

Date: 1993

For use only for statement of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to use.

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SUBMITTER REFERENCE 439-3151/5806 6

10 20 30 40 50 60 70 Table of mm 110 120 130 140

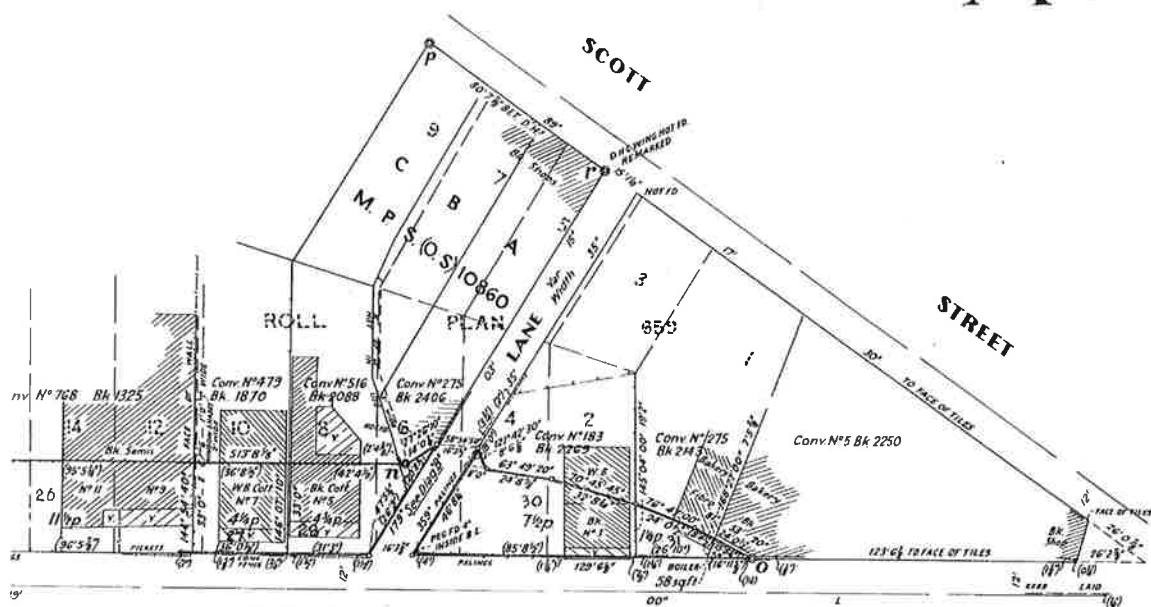
This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day, 23rd March 1992

FP 446163 (E)

FP 44 6163 (E)

Catalogued 52885 (L)
at the Registrar General's Department.

D. M. R. Plan N° 119



Aligda 12' - 42' - 12'

STREET

B

Returned & vested in the Comm^r for
Main Roads Gaz 2.12.49 Plan in F255096



DIAGRAM 'B'
Not to Scale

(Victor Thomas Brown of the Department of Main Roads, Sydney, a surveyor registered under the Surveyor's Act 1929-1946 hereby certify that the survey represented in this plan is accurate and has been made by me in accordance with the Survey Practice Regulations 1933 and that the survey was completed on 28th October 1958)

H. J. Brown Date *13th July 59.*
 Surveyor registered under the Surveyors Act 1929-1946

FP 446163 (E)

FP 446163 (E)

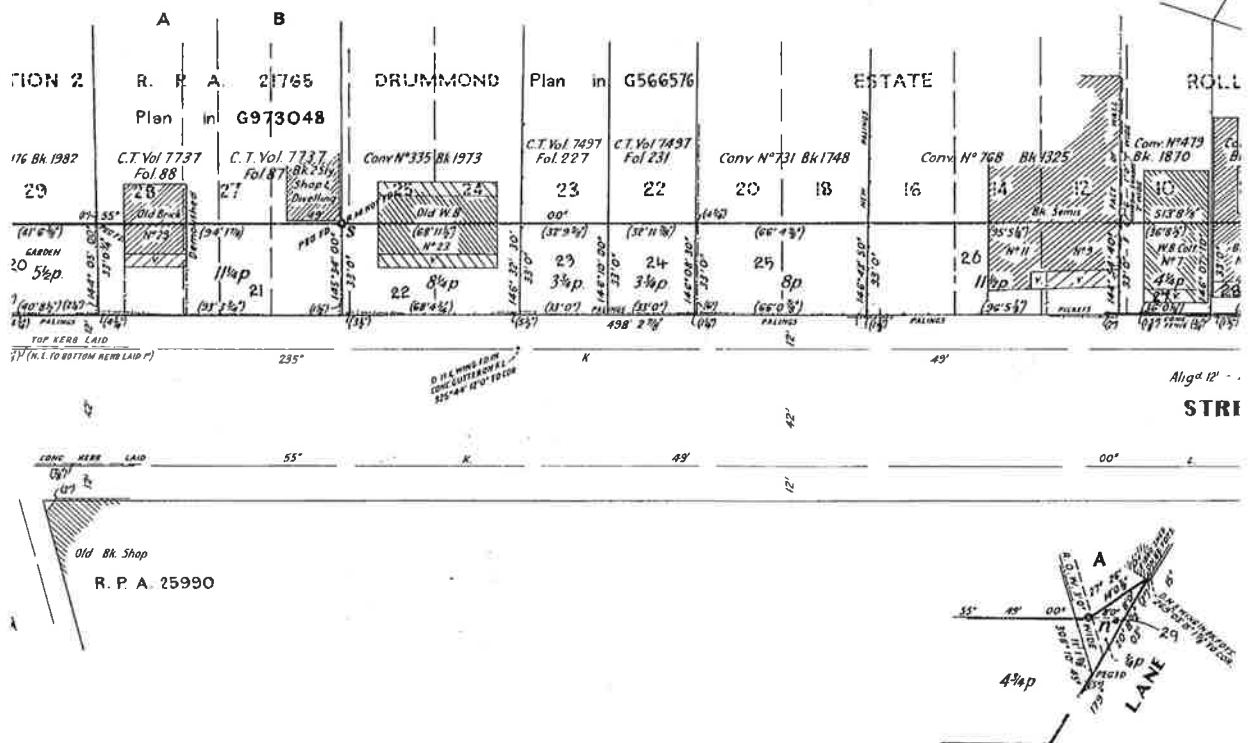


DIAGRAM 'B'
 Not to Scale

FP 446163(E)

FP 4.

PLAN

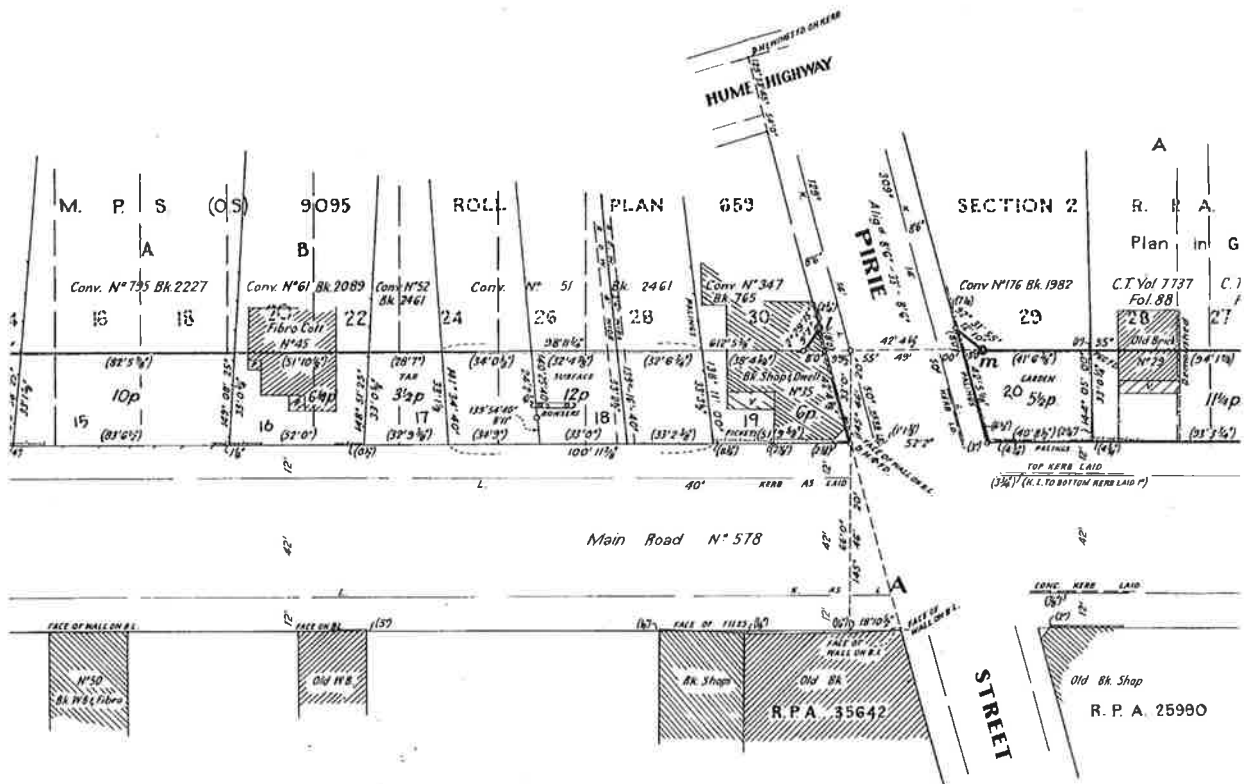
in accordance with the provisions of the Main Roads Act 1924-1958 in connection with
 proposed widening of part of Hume Highway and Terminus Street

STATE HIGHWAY N°2 & MAIN ROAD N°578

of St. Luke County of Cumberland

Scale : 40 feet to an inch

Width of proposed road widening 33 feet and variable
 Land proposed to be acquired for widening shown by red edging



REFERENCE MARKS

COR	BEARING	DISTANCE	FROM	COR	BEARING	DISTANCE	FROM
a	106° 22' 15"	1'6"	G.I. SPIKE & WING IN CONC.	l	219° 14' 50"	1'6"	CONC. BLOCK
b	305° 08' 10"	1'6"	" " " "	m	325° 49' 00"	1'6"	" " "
c	304° 45' 10"	1'6"	CONC. BLOCK	n	325° 49' 00"	1'6"	CONC. BLOCK
d	312° 30' 10"	1'6"	" " "	o	338° 51' 10"	1'6"	CONC. BLOCK
e	313° 12' 35"	1'6"	" " "	p	179° 17' 30"	1'6"	D.M. & WING FD.
f	40° 28' 30"	1'6"	" " "	p	179° 17' 30"	1'6"	D.M. & WING
g	310° 10' 15"	1'6"	G.I. SPIKE & WING IN CONC.	s	25° 16' 00"	2'11 1/2"	G.I. SPIKE & WING IN CONC.
h	129° 14' 00"	1'6"	CONC. BLOCK	t	137° 30' 05"	3'0"	D.M. & WING IN CONC. FD.
i	129° 14' 00"	1'7"	CONC. BLOCK FD.	u	145° 43' 40"	1'6"	CONC. BLOCK
j	325° 43' 40"	2'3"	D.M. & WING FD.	v	129° 14' 00"	1'6"	G.I. SPIKE & WING IN CONC.

578°101

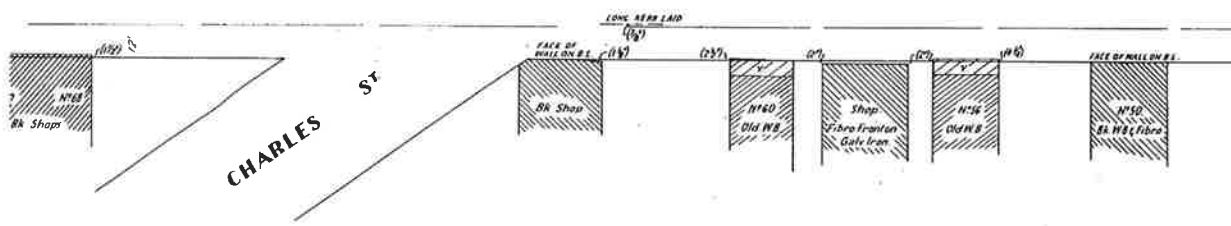
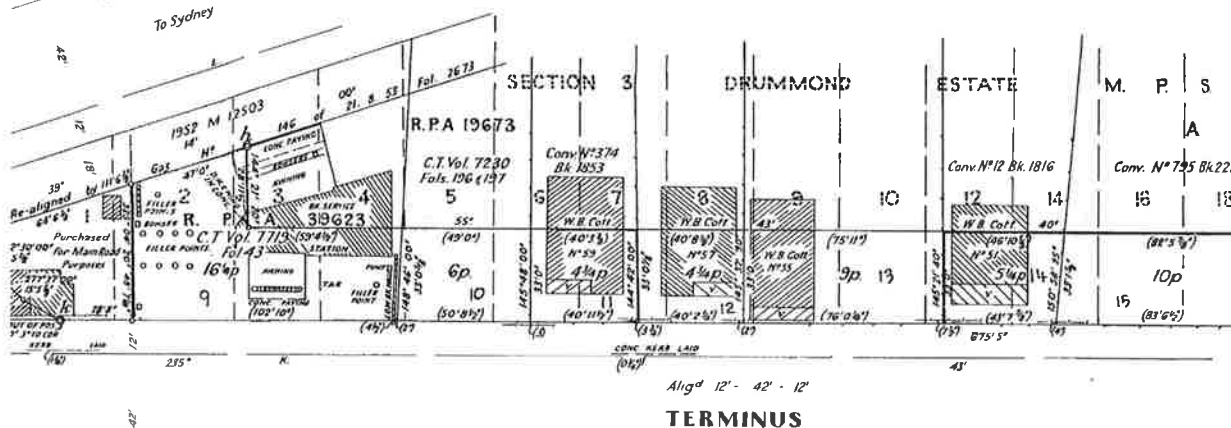
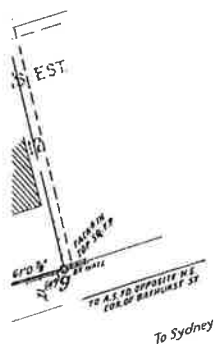
FP 44.6 163(E)

of re-alignment in accordance with the
the proposed widening of

STATE HIGH

Parish of St. Louis

Width of pro
Land proposed to be



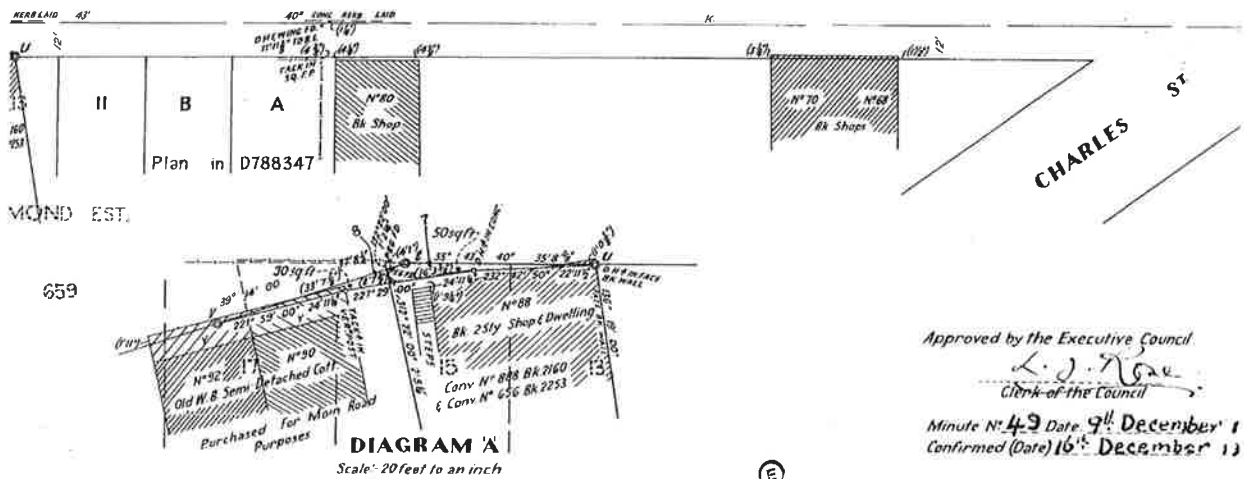
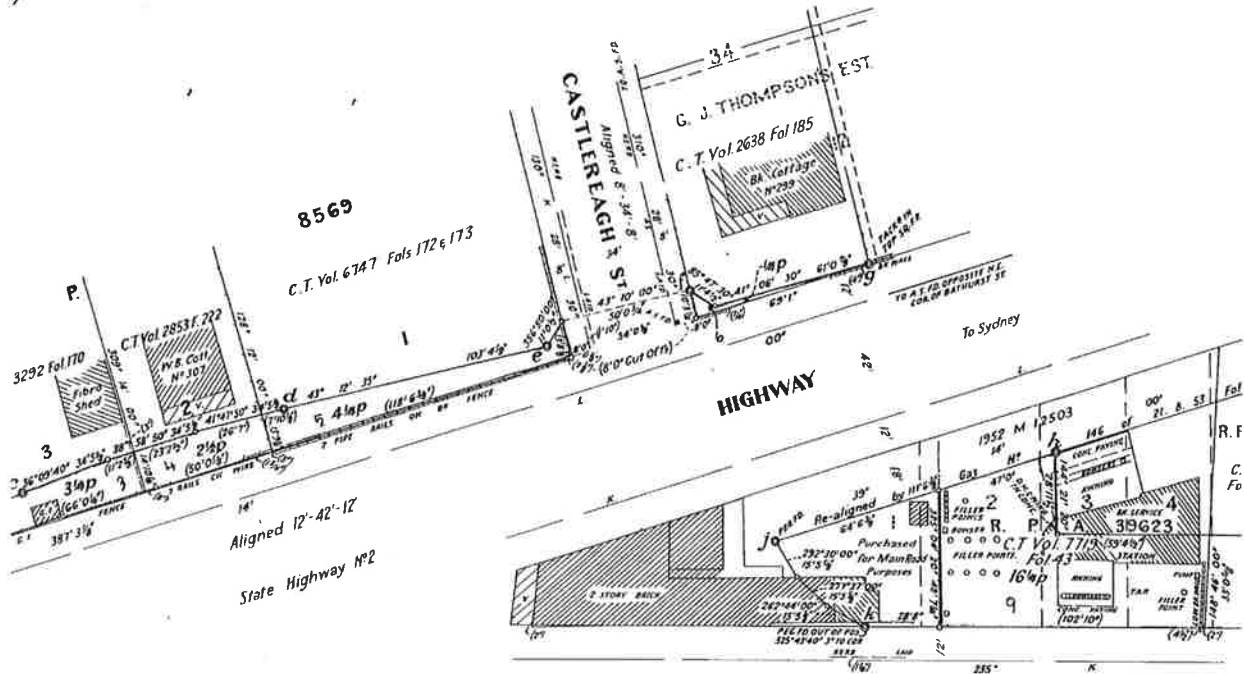
Approved by the Executive Council

[Signature]
Clerk of the Council

Minute N° 49 Date 9th December 1959
Confirmed (Date) 19th December 1959

CON.	BEARING
a	308° 22'
b	303° 08'
c	304° 45'
d	312° 30'
e	313° 12'
f	40° 28'
g	310° 18'
h	129° 14'
i	325° 43'

FP 446

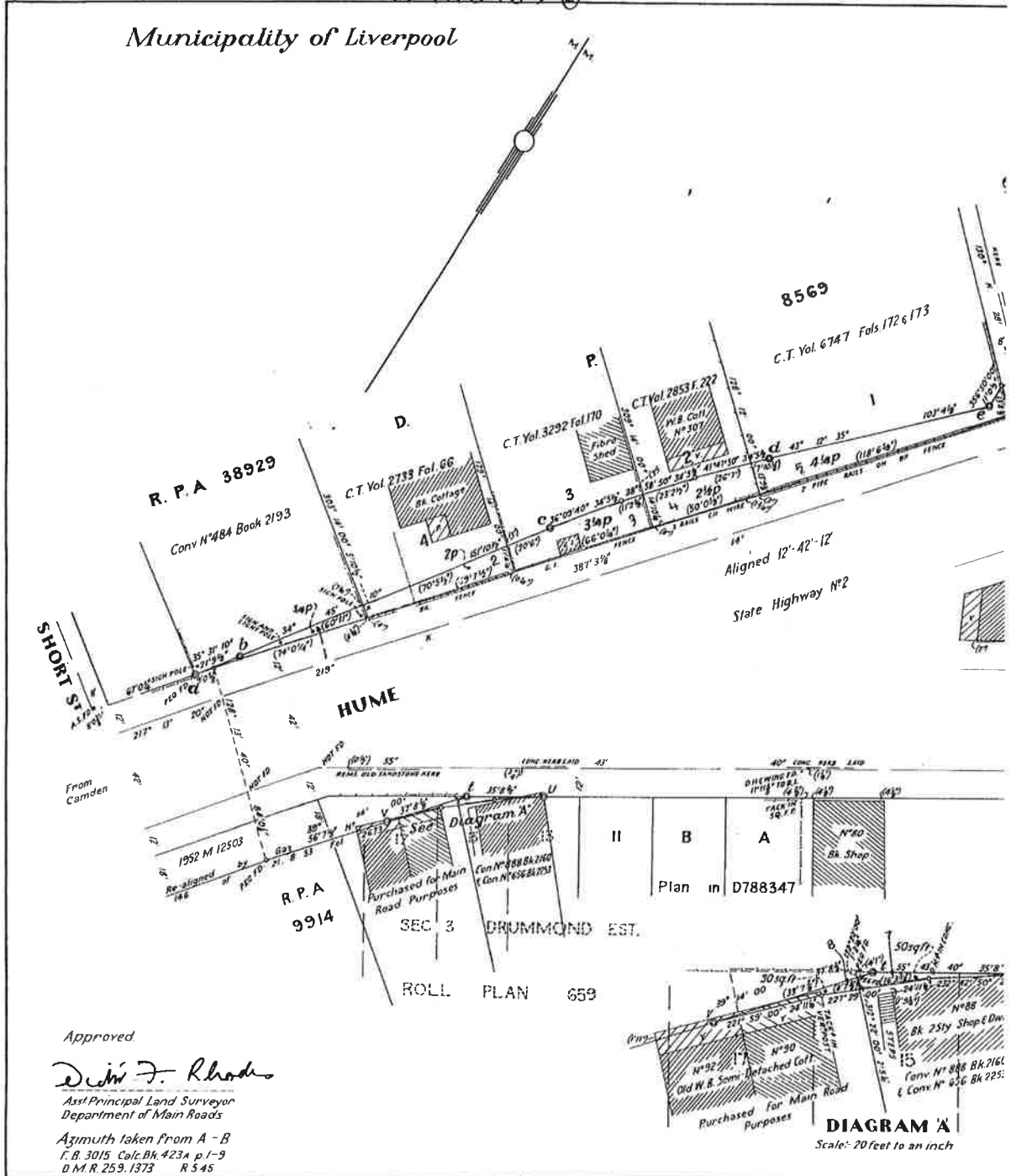


Approved by the Executive Council
L. J. [Signature]
 Clerk of the Council
 Minute N: 49 Date: 9th December 1
 Confirmed (Date) 16th December 13

DP446163 (E)

FP 446163 (E)

Municipality of Liverpool



CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS		
DP 446163		
FEET INCHES	METRES	
- 0 1/8	0.003	
- 0 1/4	0.006	
- 0 3/8	0.010	
- 0 1/2	0.013	
- 0 3/4	0.019	
- 0 7/8	0.022	
- 1	0.025	
- 1 1/8	0.029	
- 1 1/4	0.032	
- 1 1/2	0.035	
- 1 3/4	0.038	
- 1 5/8	0.041	
- 1 3/4	0.044	
- 2	0.051	
- 2 1/8	0.054	
- 2 1/4	0.057	
- 2 3/8	0.060	
- 2 1/2	0.064	
- 3	0.076	
- 3 1/2	0.089	
- 3 3/4	0.095	
- 4	0.102	
- 4 1/8	0.105	
- 4 1/2	0.114	
- 4 3/4	0.121	
- 4 7/8	0.124	
- 5	0.127	
- 5 1/2	0.140	
- 6	0.152	
- 6 1/2	0.165	
- 7 1/4	0.184	
- 7 1/2	0.191	
- 8	0.203	
- 8 3/4	0.222	
- 9	0.305	
- 10 3/8	0.314	
- 11 3/8	0.340	
- 12 1/4	0.362	
- 12 3/8	0.365	
- 16	0.457	
- 16 1/2	0.470	
- 17	0.483	
- 17 3/8	0.492	
- 19 1/4	0.540	
- 10	0.559	
- 11	0.584	
- 12	0.610	
- 13	0.686	
- 2 4 3/8	0.721	
- 2 5 1/4	0.743	
- 2 6	0.762	
- 2 11 3/8	0.899	
- 3	0.914	
- 4	1.219	
- 4 1	1.245	
- 5 10 1/2	1.791	
- 5 11 3/8	1.813	
- 6 7 1/4	2.013	
- 7 5 5/8	2.276	
- 7 7 5/8	2.327	
- 7 10 1/8	2.391	
- 8	2.438	
- 8 0 3/8	2.448	
- 8 4 1/2	2.553	
- 8 6	2.591	
- 8 6 1/8	2.594	
- 8 7 7/8	2.638	
- 8 11	2.718	
- 9 0 5/8	2.759	
- 9 4 1/2	2.858	
- 9 7	2.921	
- 9 9 1/2	2.985	
- 10 3 1/4	3.131	
- 10 6	3.200	
- 11 0 1/2	3.356	
- 11 1 7/8	3.400	
- 11 2 5/8	3.419	

CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS		
DP 446163 CONTINUED		
FEET INCHES	METRES	
- 11 4 1/4	3.461	
- 11 4 1/2	3.467	
- 11 11 5/8	3.660	
- 12	3.658	
- 12 10	3.912	
- 13 8 3/8	4.175	
- 13 9 1/4	4.197	
- 14 0 7/8	4.289	
- 14 10 1/4	4.528	
- 15 1 1/4	4.604	
- 15 1 7/8	4.620	
- 15 5 5/8	4.715	
- 15 5 7/8	4.721	
- 15 8 1/4	4.782	
- 16 3 3/8	4.963	
- 16 3 1/2	4.966	
- 16 3 7/8	4.975	
- 16 11 5/8	5.172	
- 18	5.486	
- 18 0 1/2	5.499	
- 18 10 1/2	5.753	
- 19 2	5.842	
- 20 5	6.248	
- 20 8 1/2	6.312	
- 21 9 1/8	6.613	
- 22 11 1/2	6.998	
- 23 2 1/2	7.074	
- 24 0 1/2	7.328	
- 24 2 3/4	7.385	
- 24 7 1/8	7.496	
- 24 8 1/8	7.522	
- 24 11 1/4	7.601	
- 26 0 7/8	7.947	
- 26 2 7/8	7.998	
- 26 7	8.103	
- 26 9	8.153	
- 26 10	8.179	
- 28 7	8.712	
- 28 8	8.738	
- 28 11 1/2	8.827	
- 31 3	9.525	
- 32 4 7/8	9.877	
- 32 6 3/4	9.925	
- 32 8 1/4	9.963	
- 32 9 3/8	9.992	
- 32 11 7/8	10.055	
- 33	10.058	
- 33 0 1/8	10.062	
- 33 0 1/4	10.065	
- 33 0 5/8	10.074	
- 33 0 3/4	10.077	
- 33 1 1/8	10.087	
- 33 1 5/8	10.100	
- 33 2 3/8	10.119	
- 33 2 1/2	10.122	
- 33 3 1/2	10.147	
- 33 7 3/8	10.245	
- 34 0 1/8	10.366	
- 34 5 1/8	10.493	
- 34 5 1/4	10.497	
- 34 9	10.592	
- 35 8 3/8	10.881	
- 36 0 1/8	10.976	
- 36 8 1/2	11.189	
- 37 8 3/8	11.490	
- 38 4 3/4	11.703	
- 40 2 1/4	12.249	
- 40 3 7/8	12.290	
- 40 8 1/8	12.398	
- 40 8 1/2	12.408	
- 40 11 1/2	12.484	
- 41 6 3/8	12.659	
- 42	12.802	
- 42 4 1/8	12.906	
- 42 4 1/2	12.916	
- 42 4 7/8	12.925	
- 42 5 1/8	12.932	

CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS		
DP 446163 CONTINUED		
FEET INCHES	METRES	
- 43 7 5/8	13.300	
- 46 8 1/4	14.230	
- 46 10 5/8	14.291	
- 47	14.326	
- 47 5 1/2	14.465	
- 48 7 1/4	14.815	
- 49	14.935	
- 50 0 1/8	15.243	
- 50 0 3/4	15.259	
- 50 8 1/2	15.456	
- 51 9 5/8	15.789	
- 51 10 1/8	15.802	
- 52	15.850	
- 52 2	15.900	
- 54	16.459	
- 56 7 1/8	17.250	
- 56 7 3/8	17.256	
- 59 4 1/2	18.098	
- 60 11	18.567	
- 61 0 7/8	18.615	
- 64 6 3/8	19.669	
- 66	20.117	
- 66 0 1/4	20.123	
- 66 0 7/8	20.139	
- 66 4 7/8	20.241	
- 66 8 1/2	20.333	
- 67 0 1/4	20.428	
- 68 4 3/4	20.847	
- 68 11 1/2	21.019	
- 69 1	21.057	
- 69 7 1/2	21.222	
- 70 5 1/2	21.476	
- 74 0 1/4	22.562	
- 75 11	23.139	
- 76 0 1/4	23.171	
- 80 7 7/8	24.586	
- 82 5 3/4	25.140	
- 82 5 7/8	25.143	
- 83 6 1/2	25.464	
- 84 0 1/8	25.606	
- 85 8 1/2	26.124	
- 88 6	26.975	
- 93 3 3/4	28.442	
- 94 1 7/8	28.699	
- 95 5 1/4	29.089	
- 96 5 5/8	29.404	
- 96 5 7/8	29.410	
- 98 11 3/4	30.169	
- 100 11 3/8	30.769	
- 102 10	31.344	
- 103 4 1/8	31.499	
- 111 6 3/8	33.995	
- 110 6 3/8	36.128	
- 123 6 1/8	37.646	
- 129 6 1/8	39.475	
- 151 10 1/2	46.292	
- 187 3 1/8	118.037	
- 498 2 7/8	151.863	
- 513 8 1/8	156.569	
- 540 8 1/2	164.808	
- 612 5 5/8	186.680	
- 675 5	205.867	
AC RD P	SQ M	
- 1/4	6.3	
- 3/4	19	
- 1 1/4	31.6	
- 2	50.6	
- 2 1/2	63.2	
- 3 1/4	82.2	
- 3 1/2	88.5	
- 3 3/4	94.8	
- 4 1/4	107.5	
- 4 3/4	120.1	
- 5 1/4	132.8	
- 5 1/2	139.1	

CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS		
DP 446163 CONTINUED		
AC RD P	SQ M	
- 6	151.8	
- 8 1/4	158.1	
- 7 1/2	189.7	
- 8 1/4	202.5	
- 9	227.6	
- 10	252.9	
- 11 1/4	286.5	
- 11 1/2	290.9	
- 12	301.5	
- 16 1/4	411	
50 FT	SQ M	
50	4.6	
58	5.4	



NEW SOUTH WALES



PA
061618 H

PRIMARY APPLICATION

SECTION 14, REAL PROPERTY ACT, 1900

\$ 74

Typewriting and hand-writing should be clear, legible and in permanent black non-copying ink. No alterations should be made by erasure; the words rejected must be ruled through and verified by signature or initials in the margin.

(a) Full name and address of person or corporation entitled to the land.
If a person is entitled, the occupation should also be stated.

(b) Give an adequate description of the land, e.g. "Lot 1 in Deposited Plan 1234". If an apportionment is claimed, the deed creating it should be disclosed and an adequate description of its location should be given; its location should also be shown on the plan.

The application should be accompanied by a plan of survey unless the Registrar General has previously dispensed therewith. A plan is not normally required where the application relates to land in a qualified certificate of title; in such case it will be sufficient to describe the land by reference to the volume and folio number of the qualified certificate of title.

(c) Delete whichever is inapplicable.

(d) Insert reference to portion or allotment, or if none, to number of acres granted.

(e) Name of grantee.

CAUTION.—Severe penalties are provided by the Crimes Act, 1900, and the Real Property Act, 1900, for procuring a certificate of title through fraud.

(a) VICTORDOT PTY LIMITED 82 Bathurst Street, Liverpool	herein referred to as the APPLICANT
--	--

hereby applies to have the undermentioned land brought under the provisions of the Real Property Act, 1900

All that piece of land situated at: Liverpool	in the
County of Cumberland	Parish of St. Luke
Deposited Plan 793820 , Lot 2 in Deposited Plan 793998 and Lot 4 in Deposited Plan 793819 .	being Lot 1 in
Lot 3 in Deposited Plan 793819	
and being the whole ^(c) of ^(d) Pt POR 742	granted to ^(e) THOMAS CHIFF
by Crown grant dated the 4 day of JUNE 1804	\$10.00

and requests that the certificate of title issue in the name of

(f) If the certificate of title is required to issue in favour of the applicant, insert the full name of the person or corporation in whose name the certificate of title is to issue. In the case of a person, the full address and occupation should also be stated.

If more than one nominee, state whether as joint tenants or tenants in common, and, if as tenants in common, the shares in which they take.

(g) Full name, address and occupation of declarant.

(h) If a lesser estate, state accordingly.

(i) Delete whichever is inapplicable.

(j) Should any transaction affecting the land in this application be entered into or any alterations in the buildings or fences be made subsequent to the date of the application, but prior to the issue of the certificate of title, the Registrar General should be informed immediately, and all documents evidencing such transaction should be lodged.

(k) The declaration may be qualified, e.g. by inserting the words "commencing with conveyance dated _____ registered Book No. _____" or as the case may be. See also notes on back page hereof.

(g) The Applicant

and in support of this application I/We **Margaret Colleen Hole**

solemnly and sincerely declare that—

1. The applicant is seized for an estate in fee simple^(h) of the abovescribed land.
2. There is no person in possession or occupation of the said land or any part thereof adversely to the estate or interest therein of the applicant.
3. The said land is now ⁽ⁱ⁾ ~~occupied by the persons specified in the First Schedule as occupiers~~ **unoccupied** **applicants**.
4. There does not exist any lease or agreement for lease of the said land for any term exceeding a tenancy for one year, or from year to year, except as set out in the First Schedule.
5. There does not exist any right of way, right of drainage or other easement or any restrictive covenant affecting the said land, except as disclosed in the First Schedule.
6. There does not exist any mortgage, lien, writ of execution, order, charge, encumbrance, will, settlement, deed, writing, contract, or dealing giving any right, claim or interest in the said land, or any part thereof, to any person other than the applicant except as set out in the First Schedule; nor, to the best of my knowledge and belief, is there any action, proceeding or suit pending which affects or could affect the said land, or any person other than the applicant who has or claims any estate, right, title or interest therein, except as disclosed in the First Schedule.
7. There is no resumption or instrument whereby minerals or substrata have been excepted or reserved to any person, except as disclosed in the First Schedule.
8. The Second Schedule contains a full and correct list^(k)

of all settlements, deeds, documents, instruments, maps, plans and papers relating to the said land so far as I have any means of ascertaining them. All such documents as are in my possession or under my control are lodged herewith; the whereabouts of all other documents listed, so far as is known to me, is stated in such list.

9. The applicant has not become bankrupt or assigned his estate for the benefit of creditors.

I, H. I have been authorised by power of attorney dated the _____ day of _____ 19____
 to make this application on behalf of the applicant, and I have received no notice of revocation of such authority, or

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act, 1900,^(m) and certify this application to be correct for the purposes of the Real Property Act, 1900,⁽ⁿ⁾ and I hereby undertake to notify the Registrar General promptly of any further interest in the said land created after the making of this my declaration and before issue of the certificate of title.

(d) Delete this clause if inapplicable. The relevant power of attorney or other such authority should be lodged with the application.

(m) If made outside N.S.W., strike out Oaths Act, 1900 and insert reference to local Act.
 (n) Any person falsely or negligently certifying is liable to the penalties provided by section 117 of the Real Property Act, 1900.

DATE 16th November 1989

Daphne Rok
 Signature of witness

DAPHNE ROK
 Name of witness (BLOCK LETTERS)

SOLICITOR
 Qualification of witness

[Signature]
 Applicant, or authorised agent of applicant^(o)

(o) This application is a statutory declaration and must be made before a prescribed functionary. Attention is drawn to the penalties provided by law for any false statement therein.

National Australia Bank

CONSENT OF MORTGAGEE
Savings National Australia Bank Limited, being the mortgagee
 under mortgage registered Book 3806 Number 410,412,414, hereby joins in and consents to this application subject to:—

- (i) entry on the folio of the register to be created and on the certificate of title to issue of a notification relating to such mortgage,^(p)
 AND Signed in my presence Signed for and on behalf of
 by MARK RICHARD CORBETT the Attorney of National Australia Savings Bank Limited pursuant to power of Attorney registered No. 225 Book 3804 who is personally known to me. National Australia Savings Bank Limited by its said Attorney.

(p) See section 39a of the Real Property Act, 1900. If desired this clause may be deleted and the words "registration of a mortgage under the Real Property Act, 1900, in substitution for such mortgage" inserted in lieu.

Witness

Securities Services
 George St., Sydney
 Alan Yeomans
 Bank Officer

Mortgagee SECURITIES SERVICES N.S.W.

FIRST SCHEDULE

PARTICULARS OF SUBSISTING INTERESTS (LEASES, EASEMENTS, MORTGAGES AND OTHER MATTERS REFERRED TO IN CLAUSES 3 TO 7 INCLUSIVE OF DECLARATION)

Full name and address (of occupier, lessee, mortgagee, etc.)	Nature of entitlement ("occupier", "lessee", "mortgagee", etc.)	Particulars of instrument (if any) by which entitlement created ^(q)

(q) Where the whole or any part of the land is occupied by a tenant state also the nature and duration of the tenancy.

No.	Date	Instrument	Parties	Registration	
				No.	Book
28		Conveyance	J.E. Gard to B.A. Gard	334	2342
29		Mortgage	CBC of Sydney Ltd	151	2403
30		Grant of Easement- Gaits Variety for Support	Store P/L (re-reg. Book 3261 No 231	231	3261
31		Grant of Easement- Gaits Variety for Support	Store P/L (re-reg. Book 3261 No. 231	61	3266
32			The Applicant	413	3806 ✓
33			National Australia Savings Bank Ltd	414	3806 ✓

0005 1-8; 10-12; 20, 28, 29 TO 883 G

0005 9, 9A, 23, 25, 32, 33 TO 45 A

ANNEXURE A

No.	Date	Nature of Document	Parties	Registration Book	No.
1ST PART					
1	18.9.1953	Conveyance	R.D.W. Caterson and R. Rowell to G.E. Humphrys	2266	339
2	18.9.1953	Mortgage	G.E. Humphrys and D.J. Humphrys to Bank of New South Wales	2266	340
3	19.12.1955	D/Mortgage		2396	87
4	12.12.1955	Lease	G.E.Humphrys and D.J.Humphrys to Bernard Ross and Lilly Ross (5 years)	2359	586
5	15.5.1957	Conv	G.E.Humphrys and D.J.Humphrys to Humphry Pty. Ltd.	2406	275
6	15.5.1957	Mortgage	Humphry Pty. Ltd. to G.E.Humphrys and D.J. Humphrys	2406	276
7	18.2.1960	D/Mortgage		2516	910
8		2 Abstracts			
9	28.11.1988	Conveyance	Humphry Pty. Ltd. to Victordot Pty. Ltd.	3806	409 ✓
QA	15.9.1989	MORTGAGE	NATIONAL AUSTRALIA SAVINGS BANK LIMITED	3806	410 ✓
QA	15.9.1989	Mortgage	National Australia Savings Bank Limited	3806	410
2ND PART					
10	1.6.1949	Mortgage	Everard George Connolly and Marjorie Ellen Connolly to The Urban Co-operative Building Society Ltd.	2088	517
11	17.3.1950	V/Mortgage		2115	905
12	4.9.1950	V/Mortgage		2138	6
13	18.12.1950	V/Mortgage		2152	992
14	28.2.1953	V/Mortgage		2247	360
15	26.8.1953	V/Mortgage		2260	687
16	22.12.1966	D/Mortgage	(Book 2088 No. 517) & Re-registration endorsed on Doc 10.	2822	5
17	22.12.1966	Mortgage	Everard George Connolly and Marjorie Ellen Connolly to Jetty Rothschild	2871	424
18	22.12.1966	Mortgage	Everard George Connolly and Marjorie Ellen Connolly to Bennita Phillipa Brennan	2822	6
19		Abstract			7
20	5.5.1968	D/Mortgage	(Book 2822 No 6)	2873	984
21	5.5.1968	D/Mortgage	(Book 2822 No 7)	2873	985
22	5.5.1968	Conv	Everard George Connolly and Marjorie Ellen Connolly to John Edmond Gard and Beryl Agnes Gard	2873	986
23	28.11.1988	Conv	John Edmond Gard and Beryl Agnes Gard to Victordot Pty. Ltd.	3806	411 ✓
24	28.11.1988	Conv	John Edmond Gard and Beryl Agnes Gard to Victordot Pty. Ltd.	3806	413 ✓
All parts					
25	28.11.1988	Mortgage	National Australia Bank	3806	412 ✓
26		2 Searches		3806	412
27		1 SEARCH			

SECOND SCHEDULE

(See notes on back page hereof)

DOCUMENTS REFERRED TO IN CLAUSE 8 OF DECLARATION

To be completed by declarant

Documents Nos. 1 to 8 incl, 10 to 22 incl 28 & 29	hereunder LODGED HEREWITH
Documents Nos. 30 & 31.	hereunder WHEREABOUTS UNKNOWN
Documents Nos.	hereunder PERMANENTLY LODGED
	Receipt Nos.
Documents Nos. 9, 23, 24 and 25 32 and 33	hereunder TO BE LODGED BY: National Australia Bank

No.	Date	Nature of document	Parties	Registration		FOR OFFICE USE ONLY
				Book	No.	By whom produced
			<u>Please See Annexure 'A' hereto.</u> 27.11.89 Doss (1) + (10) - (22)			

If space is insufficient, add annexure sheet(s)

PRIMARY APPLICATION PA 61618 PA 61617	Lodged by Walker, Taylor, Edwards LSM Delivery Box Number 883G
--	---

NOTES

Documents to be scheduled

This application should be marked by the Commissioner of Stamp Duties before lodgment by hand at the Registrar General's Office.

Where an applicant claims an estate in fee simple by virtue of a documentary title the Second Schedule should commence with a good root of title at least thirty years old or with a later deed which has already been accepted by the Registrar General in an earlier application. Clause 8 of the declaration should be suitably amended.

Where the applicant claims title by possession the devolution of the documentary title of the person(s) against whom possession is asserted should be shown in the Second Schedule.

Where the applicant claims the benefit of an appurtenant easement the Second Schedule should contain a reference to:

- * the deed by which the grantor of the easement acquired title to the servient tenement, and
- * the deed by which the easement was created.

The applicant will be required to establish (e.g., by production of searches) that (i) the grantor of the easement had a good title to the servient tenement; and (ii) the easement has not been determined by surrender, union of tenements or otherwise.

Documents to be lodged

Upon lodgment the application should be accompanied by:

- * all deeds and other documents evidencing the devolution of title from the abovementioned commencing point;

Deeds and other documents which relate to the period prior to the selected commencing point should not be scheduled in or lodged with this application but should be retained in case their subsequent production should be required.

- * any abstract(s) of title in the applicant's possession covering the relevant period; and
- * searches showing the result of searches in the general register of deeds, the register of causes, writs and orders, the register of resumptions and the bankruptcy registers.

Searches

The searches obtained when the applicant or a predecessor in title acquired the land in the application will suffice provided that they commence with a good root of title at least thirty years old or with a later deed already accepted by the Registrar General in an earlier application and, in either case, have been brought up to date or to a recent date. In the case of an application based on possession the searches should show not only the devolution of the documentary title (which in most cases will need to be traced from the Crown grant) but also the result of searches against the applicant and his predecessors in possession.

Applicants based upon possession

There is available upon request at the Title Conversion Branch a departmental circular containing directions for the guidance of applicants who claim title by possession.

Destruction of documents lodged with the application

Upon the issue of the certificate of title the Registrar General will as a general rule destroy those documents which exclusively affect the land in the application (and which accordingly will be totally cancelled pursuant to Section 23A (2), Real Property Act, 1900). However, documents which would otherwise be destroyed may be returned upon request to interested persons. The request (in writing) should specify the documents to be returned and should be made before the processing of the application has been completed.



LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:20PM

FOLIO: 1/793820

First Title(s): OLD SYSTEM

Prior Title(s): PA61618

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
20/3/1992	PA61618	PRIMARY APPLICATION	FOLIO CREATED EDITION 1
4/6/1998	DP877435	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

liverpool nicola

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LAND
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Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:20PM

FOLIO: 4/793819

First Title(s): OLD SYSTEM

Prior Title(s): PA61618

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
20/3/1992	PA61618	PRIMARY APPLICATION	FOLIO CREATED EDITION 1
4/6/1998	DP877435	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:20PM

FOLIO: 2/793998

First Title(s): OLD SYSTEM

Prior Title(s): PA61618

Recorded	Number	Type of Instrument	C.T. Issue
20/3/1992	PA61618	PRIMARY APPLICATION	FOLIO CREATED EDITION 1
4/6/1998	DP877435	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:20PM

FOLIO: C/160860

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 13103 FOL 138

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
29/7/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
14/9/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
20/11/1991	DP793818	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:20PM

FOLIO: 3/793818

First Title(s): OLD SYSTEM

Prior Title(s): C/160860

<u>Recorded</u>	<u>Number</u>	<u>Type of Instrument</u>	<u>C.T. Issue</u>
20/11/1991	DP793818	DEPOSITED PLAN	FOLIO CREATED EDITION 1
4/6/1998	DP877435	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Received: 08/04/2019 12:20:08

NEW SOUTH WALES

CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900



13103138

Vol. **13103** Fol. **138**

IVA NO. 20551

Edition issued 11-8-1976.



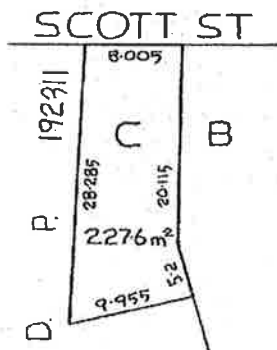
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Cancelled
Janatson
SEE AUTO FOLD



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



IVA 20551 IN.

REDUCTION RATIO 1 : 500

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot C in Deposited Plan 160860 at Liverpool in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804.

FIRST SCHEDULE

SALZBURG INVESTMENTS PTY. LIMITED.

GRY

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in Section 28A of the Real Property Act, 1900).
3. Caveat No. P831638 by the Registrar General. Withdrawn R183103

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

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

R4933081

Reg:R219313 /Doc:CT 13103-138 CT /Rev:22-Dec-2010 /Sts:OK.SC /Pgs:ALL /Prt:08-Apr-2019 12:20
Ref:liverpool nicola /Src:M

SECOND SCHEDULE (continued)

[illegible][illegible]

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



SEARCH DATE

8/4/2019 12:17PM

FOLIO: 100/877435

First Title(s): OLD SYSTEM

Prior Title(s): 3/793818 4/793819
1/793820 2/793998

Recorded	Number	Type of Instrument	C.T. Issue
4/6/1998	DP877435	DEPOSITED PLAN	FOLIO CREATED EDITION 1
4/8/1999	6065341	DEPARTMENTAL DEALING	
23/8/2004	AA899128	DISCHARGE OF MORTGAGE	
23/8/2004	AA899129	DISCHARGE OF MORTGAGE	
23/8/2004	AA899130	DISCHARGE OF MORTGAGE	
23/8/2004	AA899131	DISCHARGE OF MORTGAGE	EDITION 2
29/11/2004	AB122971	TRANSFER	
29/11/2004	AB122972	MORTGAGE	
29/11/2004	AB122973	MORTGAGE	EDITION 3
7/7/2005	AB610466	CAVEAT	
21/2/2006	AC129172	CAVEAT	
27/2/2006	AC141071	CAVEAT	
26/7/2006	AC484879	CAVEAT	
30/8/2007	AD47299	WITHDRAWAL OF CAVEAT	
30/8/2007	AD47300	WITHDRAWAL OF CAVEAT	
30/8/2007	AD47301	DISCHARGE OF MORTGAGE	
30/8/2007	AD47302	DISCHARGE OF MORTGAGE	EDITION 4
30/8/2007	AD47402	WITHDRAWAL OF CAVEAT	
30/8/2007	AD47298	UNNECESSARY - WITHDRAWAL OF CAVEAT	
30/8/2007	AD47303	REJECTED - TRANSFER	
30/8/2007	AD47304	REJECTED - MORTGAGE	
17/10/2007	AD495187	CAVEAT	
22/10/2007	AD507086	WITHDRAWAL OF CAVEAT	
22/10/2007	AD507087	WITHDRAWAL OF CAVEAT	
22/10/2007	AD507088	TRANSFER	EDITION 5
5/6/2008	AE2578	MORTGAGE	EDITION 6

END OF PAGE 1 - CONTINUED OVER

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:17PM

FOLIO: 100/877435

PAGE 2

Recorded	Number	Type of Instrument	C.T. Issue
9/4/2009	AE605987	LEASE	EDITION 7
10/1/2014	AI285147	LEASE	EDITION 8
11/2/2014	AI366803	DEPARTMENTAL DEALING	
24/9/2014	AI915256	DISCHARGE OF MORTGAGE	
24/9/2014	AI915257	MORTGAGE	EDITION 9
24/8/2016	AK697881	VARIATION OF LEASE	
1/9/2018	AN678863	DEPARTMENTAL DEALING	EDITION 10 CORD ISSUED
1/2/2019	AP35715	DISCHARGE OF MORTGAGE	
1/2/2019	AP35716	TRANSFER	EDITION 11

*** END OF SEARCH ***

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Received: 08/04/2019 12:18:19

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Licence: 01-09-023
Licensee: Aust. Forms P/L

TRANSFER

New South Wales
Real Property Act 1900



AB122971D

PRIVACY NOTE: this information is legally required and will

STAMP DUTY

Office of State Revenue NSW Treasury Client No: 2426040 Duty: \$2-00 Trans No: 2196000 Asst details: TS	Office of State Revenue NSW Treasury Client No: 1321276 Duty: Not liable Trans No: 419 Asst details: Vendor duty
--	---

(A) TORRENS TITLE

If appropriate, specify the part transferred

FOLIO IDENTIFIER 100/877435

(B) LODGED BY

Delivery Box 674R	Name, Address or DX and Telephone LLPN: 123495E Reference (optional): AB One Spencer P/L	P. R. & J. M. WHITE P/L. PHONE 261-5720 674R	CODE T TW (Sheriff)
----------------------	--	--	------------------------------

(C) TRANSFEROR

VICTORDOT PTY LIMITED ACN 000 720 427
& GARD'S VARIETY STORE PTY LIMITED ACN 000 206 511

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of \$ 3 600 000.00 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): 1. 2. 3.

(H) TRANSFEE

ONE SPENCER STREET PTY LIMITED ACN 098 859 280

(I) TENANCY:

DATE

22 / 9 / 2004
dd mm yyyy

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

Signature of witness:

Name of witness:

Address of witness:

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

Signature of witness:

Name of witness:

Address of witness:

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

Signature of transferor:

SEE ANNEXURE ATTACHED

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

Signature of transferee:

If signed on the transferee's behalf by a solicitor or licensed conveyancer, insert the signatory's full name and capacity below:

Solicitor for Transferee

PETER DOYLE

ANNEXURE "A" TO TRANSFER

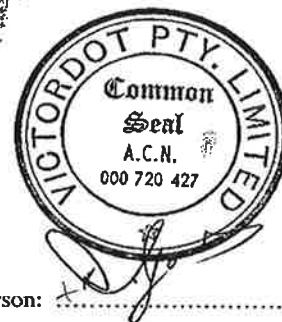
Parties: Victordot Pty Limite & Gard's Variety Store Pty Limited and One Spencer Street Pty Limited

Dated:

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: **VICTORDOT PTY LIMITED**

Authority: Board of Directors



Signature of authorised person: *x* *D. Gard*

Signature of authorised person: *x* *D. Gard*

Name of authorised person: *DOROTHEA CARD*

Name of authorised person: *DONALD VICTOR CARD*

Office held: *DIRECTOR*

Office held: *DIRECTOR*

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: **GARD'S VARIETY STORE PTY LIMITED**

Authority: Board of Directors



Signature of authorised person: *x* *D. Gard*

Signature of authorised person: *x* *D. Gard*

Name of authorised person: *DOROTHEA CARD*

Name of authorised person: *DONALD VICTOR CARD*

Office held: *DIRECTOR*

Office held: *DIRECTOR*

Form: - 01T
Release: 2
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900



AD507088E

PRIVACY NOTE: this information is legally required and v.

STAMP DUTY

Office of State Revenue use only

NEW SOUTH WALES DUTY

13-04-2006

0003397949-001

SECTION 18(2)

DUTY

\$ *****2.00

(A) TORRENS TITLE

100/877435

(B) LODGED BY

Delivery
Box 10

Name, Address or D

G J Fong & CO
DX 880 Sydney

LLPN: 128011

Reference: 07C

CODES

T

TW

(Sheriff)

(C) TRANSFEROR

ONE SPENCER STREET PTY LIMITED

(D) CONSIDERATION

The transferor acknowledges receipt of the consideration of \$ 2,800,000.00 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) TRANSFEE

TONGDA INTERNATIONAL TOBACCO PTY LTD (ACN 081 101 386)

(I)

TENANCY:

(J) DATE

Certified correct for the purposes of the Real Property Act 1900
and executed on behalf of the corporation named below by the
authorised person(s) whose signature(s) appear(s) below
pursuant to the authority specified.

Corporation: One Spencer Street Pty Limited

Authority: section 127 of the Corporations Law

Signature of authorised person:

Signature of authorised person:

Name of authorised person:

Office held:

TONY JAMMAL
DIRECTOR

Name of authorised person:

Office held:

JOSEPH JAMMAL
DIRECTOR

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

Signature:

Signatory's name:

Signatory's capacity:

GARY FONG

transferee's solicitor

ACN 098 859 280



LAND
REGISTRY
SERVICES

Title Search



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 100/877435

SEARCH DATE	TIME	EDITION NO	DATE
8/4/2019	12:18 PM	11	1/2/2019

LAND

LOT 100 IN DEPOSITED PLAN 877435
AT LIVERPOOL
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP877435

FIRST SCHEDULE

LIVERPOOL CITY COUNCIL

(T AP35716)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART SHOWN SO INDICATED IN THE TITLE DIAGRAM
- 2 AI285147 LEASE TO ATHLETE ZONE PTY LIMITED OF 40-47 SCOTT STREET, LIVERPOOL. EXPIRES: 31/3/2016. OPTION OF RENEWAL: 2 YEARS.
AK697881 VARIATION OF LEASE AI285147 EXPIRY DATE NOW 31/3/2018.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

liverpool nicola

PRINTED ON 8/4/2019

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

NEW SOUTH WALES

Application No.45943

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



Vol. **10834** Fol. **85**

Edition Issued 8-7-1988

CANCELLED ☒

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

Witness *M. Flint*

Lawton
Registrar General.

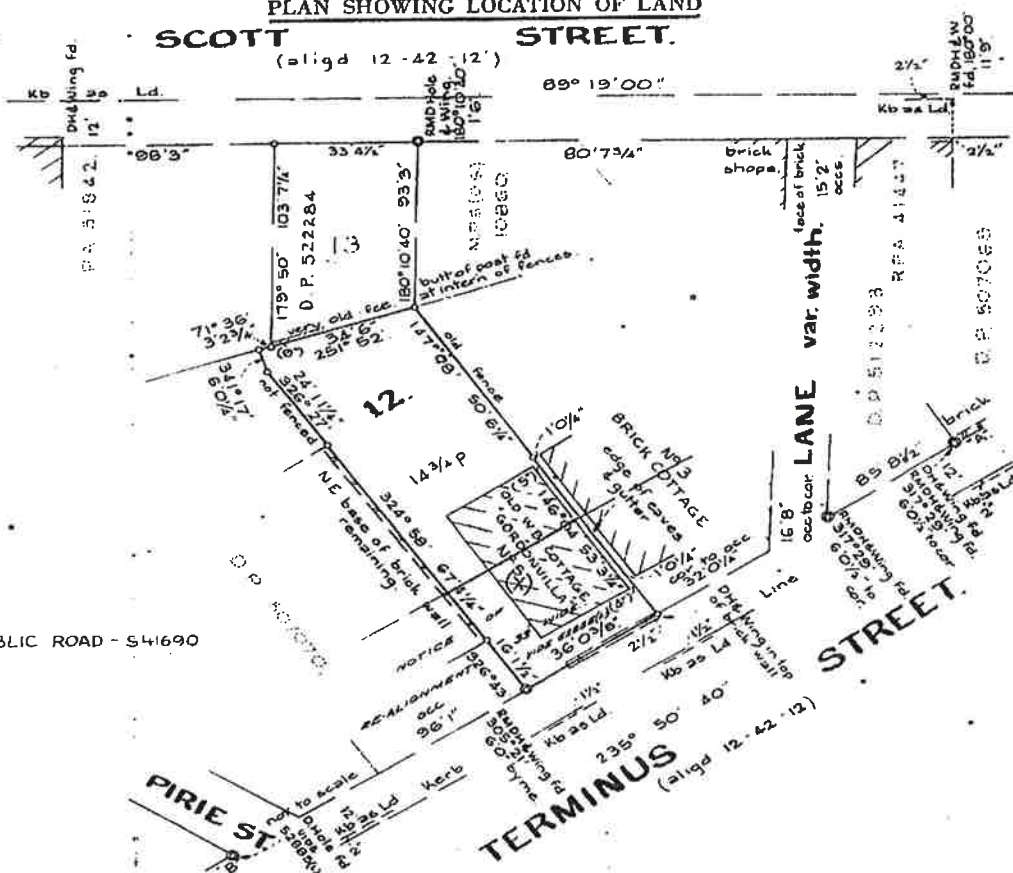


PLAN SHOWING LOCATION OF LAND

SCOTT STREET.

(align 12-42-12')

89° 19' 00"



(X) NOW PUBLIC ROAD - S41690

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 12 in Deposited Plan 526412 in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804.

FIRST SCHEDULE (continued overleaf)

PETER ROLAND EDWARD THOMAS, of Liverpool, Company Director, and **EILEEN MARY THOMAS**, his wife, as Joint Tenants.

SECOND SCHEDULE (continued overleaf)

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. ~~Restrictions on user (Section 27(6) Main Roads Act, 1924) affecting the strip of land noted "Notice of Re-alignment 33' wide" in the plan hereon. Cancelled S41690~~

Lawton
Registrar General.

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

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

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE		
Pernamo Electrical & Television Pty. Limited	Transfer	N141113	9/10/1972	23 3 1973	<i>Janet Carr</i>
<i>As to best being Per 1 & 2 Lot 12 in DP 526412</i> <i>this Deed is cancelled and New Certificate of Title Issued.</i> <i>V. 1 of 1 dated</i> <i>Vide</i> <i>Road.</i> <i>REGISTRAR GENERAL</i>					

SECOND SCHEDULE (continued)

NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION	
	NUMBER	DATE					
Mortgage	N 988149	12 3 1968	In Trust for the Equitable Insurance Company Limited	8 7 1968	<i>Janet Carr</i>	Discharged	N141112
Reassignment	SA1690	-	The land so indicated in the plan above being Lot 27 in DP 446163 is now Public Road	4-11-1980	<i>Janet Carr</i>		

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

CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900



15182156

NEW SOUTH WALES

First Title : Old System

Prior Title : Vol.10834 Fol.85

Vol. 15182 Fol. 156

EDITION ISSUED

17 1 1984

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



[Signature]
Registrar General.

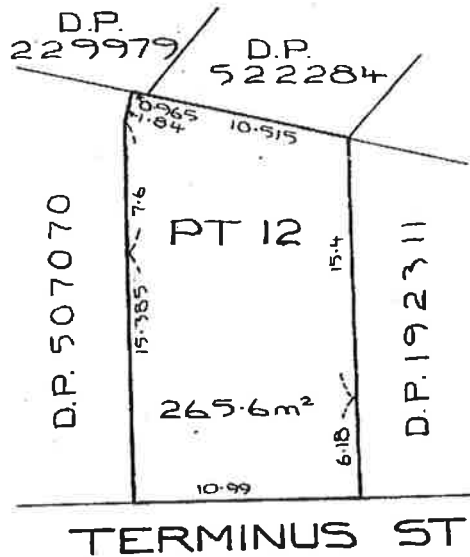


PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED

SEE AUTO FOLIO



T865362 & *[Signature]*

THE LAND WITHIN
DESCRIBED IS
LOT 12 IN DP657056

LAND REFERRED TO

The part of Lot 12 in Deposited Plan 526412 shown in the plan hereon in the City of Liverpool Parish of St.Luke and County of Cumberland.

FIRST SCHEDULE

PERRAMS ELECTRICAL & TELEVISION PTY. LIMITED.

SECOND SCHEDULE

1. Reservations and conditions in the Crown Grant.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON
(Page 1) Vol. 15182 Fol. 156

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

FIRST SCHEDULE (continued)
 REGISTERED PROPRIETOR

Registrar General

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

PARTICULARS

Registrar General

CANCELLATION

~~X453903 Lease to Time Warp Amusements Pty. Limited.
 Expires on 24-1-1994, with an option of renewal
 for 3 years. Registered 16-5-1988.~~



I466034

I 466034 Lease to Time Warp Amusements Pty. Limited. Expires 6-3-1994
 Option of renewal 3 years. Registered 19-7-1993



NOTATIONS AND UNREGISTERED DEALINGS

X453903 L.R.
 I466034 L.R.

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



SEARCH DATE

8/4/2019 12:23PM

FOLIO: 12/657056

First Title(s): OLD SYSTEM

Prior Title(s): VOL 15182 FOL 156

Recorded	Number	Type of Instrument	C.T. Issue
16/5/1995		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
27/5/1999	5857696	REQUEST	EDITION 1
2/7/1999	5954218	TRANSFER	
2/7/1999	5954219	MORTGAGE	EDITION 2
1/3/2000	6608014	CAVEAT	
18/9/2000	6894147	VARIATION OF MORTGAGE	EDITION 3
18/9/2000	6956368	APPLICATION FOR PREPARATION OF LAPSING NOTICE	
10/4/2001	7534476	DISCHARGE OF MORTGAGE	
10/4/2001	7534478	MORTGAGE	EDITION 4
5/12/2001	8174484	DISCHARGE OF MORTGAGE	
5/12/2001	8174485	TRANSFER	EDITION 5
20/5/2008	AD963160	MORTGAGE	EDITION 6
5/9/2008	AE195091	DISCHARGE OF MORTGAGE	
5/9/2008	AE195092	TRANSFER	EDITION 7
24/9/2014	AI915271	MORTGAGE	EDITION 8
27/1/2015	AJ204493	CHANGE OF NAME	EDITION 9
1/9/2018	AN678863	DEPARTMENTAL DEALING	EDITION 10 CORD ISSUED
31/1/2019	AP35693	DISCHARGE OF MORTGAGE	
31/1/2019	AP35694	TRANSFER	EDITION 11

*** END OF SEARCH ***

Form: 97-01T
Licence: 10V/0096/95
Printed: 0897LTO

TRANSFER

New South Wales
Real Property Act 1900

5954218W



Instructions for filling out
this form are available
from the Land Titles Office

Office of State Revenue use only

00*Z\$

50/196582Z00 40 2054 662040

LAND TITLES "M-S-N"

(A) **LAND TRANSFERRED**

If appropriate, specify the
share or part transferred.

IDENTIFIER 11/522284
IDENTIFIER 12/657056

(B) **LODGED BY**

LTO Box

Name, Address or DX and Telephone

122J

John Blake

Reference (15 character maximum): J. Demetre

(C) **TRANSFEROR**

PERRAM'S ELECTRICAL AND TELEVISION PTY LIMITED
ACN 000 220 244

(D) acknowledges receipt of the consideration of ...\$375,000.00.....

and as regards the land specified above transfers to the transferee an estate in fee simple.

(E) Encumbrances (if applicable): 1. 2. 3.

(F) **TRANSFEE**

T
TS
(s/13 LGA)

LANDMARK SQUARE DEVELOPMENTS PTY LIMITED
ACN 083 368 594

(G)

TW
(Sheriff)

TENANCY:

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. DATE

Signed in my presence by the transferor who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

COMMON
PERRAM'S ELECTRICAL
AND TELEVISION
PTY LIMITED
A.C.N. 000 220 244
DIRECTOR
Secretary
Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Solicitor for Signature of Transferee

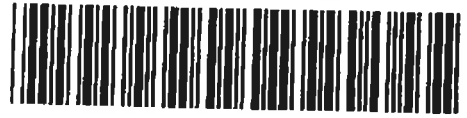
If signed on the transferee's behalf by a solicitor or licensed
conveyancer, show the signatory's full name in block letters.

may be accepted for lodges, re.
Execution of Transferor - B. Perron. (REG 60) 4-6-99.

Form: 01T
Release: 2
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900



8174485U

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

STAMP DUTY

Office of State Revenue use only	
CLIENT No. 5703380	STAMP No. 838
STAMP DUTY \$2.00	SIGNATURE <i>Ubaton</i>
TRANSACTION No. 014901	DATE 4/12/01
ASSESSMENT DETAILS:	

(A) TORRENS TITLE

Folio Identifier 11/522284 & 12/657056

(B) LODGED BY

Delivery Box	Name, Address or DX and Telephone	CODES
1109U	P. BAIN & ASSCO. DX 670 SYDNEY GAZCON / PSERRAS	T TW (Sheriff)
Reference: 010732		

(C) TRANSFEROR

LANDMARK SQUARE DEVELOPMENTS PTY LIMITED ACN 083 368 594

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of \$ 470,000.00 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) TRANSFEE

GAZCON PTY LIMITED ACN 009 466 545

(I)

~~TENANCY~~

(J) DATE

Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the corporation named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.
Corporation:
Authority:

Signature of authorised person:

Name of authorised person:
Office held:

POU Y. PERUMAL
22A YORK ST
NORTH RPPING

EXECUTED BY LANDMARK SQUARE
DEVELOPMENTS PTY LIMITED
(ACN 083 368 594)

Signature of authorised person:

Name of authorised person: *EDDIE AWAD*
Office held: *DIRECTOR*

Sole Director & Secretary

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

Signature:

Signatory's name:
Signatory's capacity:

Jim Pserras
transferee's solicitor

JM

Form: 01T
Release: 2
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900



AE195092W

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

STAMP DUTY

Office of State Revenue use only

Office of State Revenue NSW Treasury	
Client No: 1411509	2650
Duty: \$2-	Trans No: 5132579
Asst details:	

(A) TORRENS TITLE

11/DP 522284 & 12/DP 657056

(B) LODGED BY

Delivery Box <u>1W</u>	Name, Address or DX and Telephone G J FONG AND COMPANY DX 880 SYDNEY 02-9283 1188 Reference: <u>P6044</u>	CODES T TW (Sheriff)
---------------------------	---	-------------------------------

(C) TRANSFEROR

GAZCON PTY LIMITED (A.C.N.009 166 545)

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of \$ 1,600,000.00 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) TRANSFEE

AUSTRALIA NEW CENTURY INTERNATIONAL DUTY FREE PTY LIMITED
(A.C.N.094 997 958)

(I) TENANCY:

(J) DATE

Certified correct for the purposes of the Real Property Act 1900
and executed on behalf of the corporation named below by the
authorised person(s) whose signature(s) appear(s) below
pursuant to the authority specified.

Corporation: GAZCON PTY LIMITED (ACN 009 166 545)
Authority: Section 127 of the Corporations Act 2001

Signature of authorised person:

Name of authorised person:

Office held:

Nabil Gazal
Director

Signature of authorised person:

Name of authorised person:

Office held:

NICHOLAS GAZAL
DIRECTOR

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

Signature:

Signatory's name:

Signatory's capacity:

SEOW CHING PHANG

transferee's solicitor

All handwriting must be in block capitals.

*N. the
Reg*

System Document Identification

Form Number: 01T-e
Template Number: T_nsw16
ELN Document ID: 9299903
ELN NOS ID: 9299906

TRANSFER
New South Wales
Real Property Act 1900

Land Registry Document Identification

AP35694

Stamp Duty: 9511109-002

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect 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.

LODGED BY:

Responsible Subscriber: HWL EBSWORTH LAWYERS ABN 37246549189
Address: L14 Australia Square SQ
Sydney 2000
Telephone:
PEXA Subscriber Number: 7943
Customer Account Number: 501286H
Document Collection Box: 1W
Client Reference: SC:774274

LAND TITLE REFERENCE

12/657056
11/522284

TRANSFEROR

AUSTRALIA NEW CENTURY INTERNATIONAL PTY LTD ACN 094997958
Registered company

TRANSFeree

LIVERPOOL CITY COUNCIL
Local government or body
Tenancy: Sole Proprietor

CONSIDERATION

The transferor acknowledges receipt of the consideration of \$5,280,000.00

ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

SIGNING FOR TRANSFEROR

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferor.

Party Represented by Subscriber:

AUSTRALIA NEW CENTURY INTERNATIONAL PTY LTD

Signed By: Jia Hong Zou
PEXA Signer Number: 59641

Signer Capacity: Practitioner Certifier
Digital Signing Certificate Number: 33278

Signed for
Subscriber: GEA LAWYERS PTY. LTD. ABN 24169919724
GEA LAWYERS

Subscriber Capacity:Representative Subscriber

PEXA Subscriber Number:23946

Customer Account Number:503268

Date: 31/01/2019

SIGNING FOR TRANSFEREE

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferee.

Party Represented by Subscriber:

LIVERPOOL CITY COUNCIL

Signed By: Christopher Conolly

PEXA Signer Number:55119

Signer Capacity:Practitioner Certifier

Digital Signing Certificate Number:30374

**Signed for
Subscriber:**

PARTNERS OF HWL EBSWORTH LAWYERS ABN 37246549189

HWL EBSWORTH LAWYERS

Subscriber Capacity:Representative Subscriber

PEXA Subscriber Number:7943

Customer Account Number:501286

Date: 31/01/2019



LAND
REGISTRY
SERVICES

Title Search



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 12/657056

SEARCH DATE	TIME	EDITION NO	DATE
8/4/2019	12:21 PM	11	31/1/2019

LAND

LOT 12 IN DEPOSITED PLAN 657056
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP657056

FIRST SCHEDULE

LIVERPOOL CITY COUNCIL

(T AP35694)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

liverpool 12

PRINTED ON 8/4/2019

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NEW SOUTH WALES

Application No. 45375

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



10669249

Vol. 10669 Fol. 249

EH

Edition issued 27-10-1967



CANCELLED

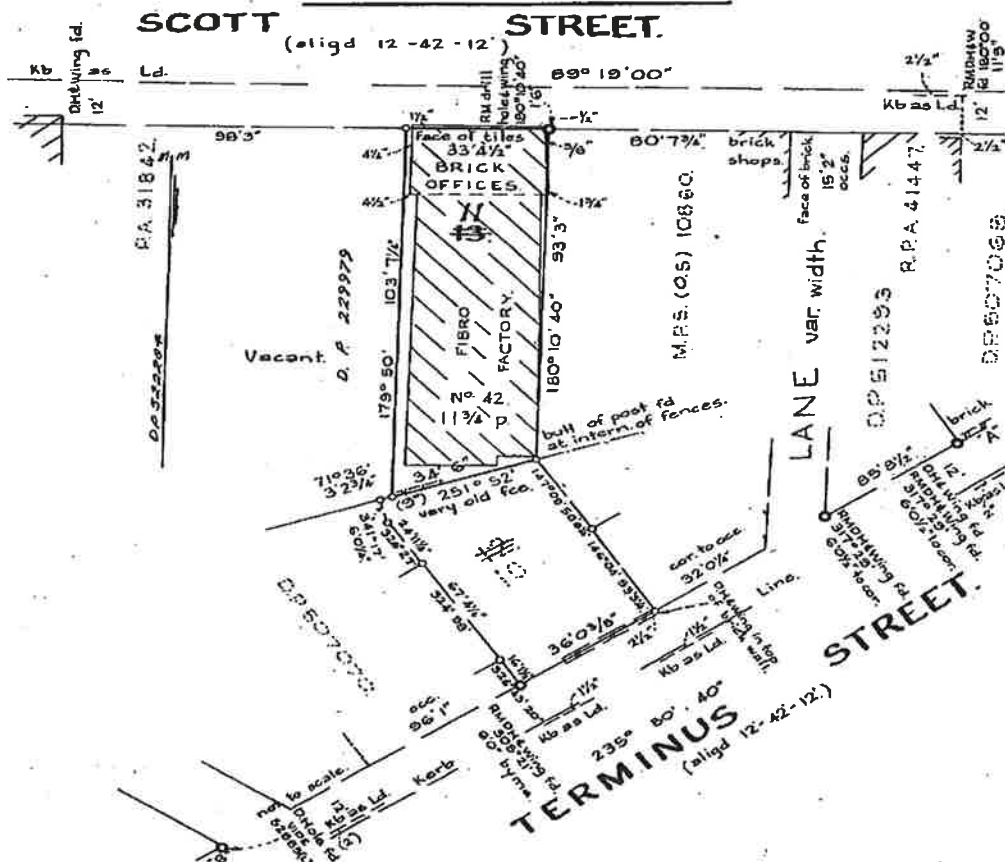
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *Mrs. Salter*

Jan Watson
SEE AUTO FOLIO
Registrar General.



PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 11 in Deposited Plan 522284 in the City of Liverpool Parish of St. Luke and County of Cumberland being part of Portion 262 granted to Thomas Chipp on 4-6-1804.

FIRST SCHEDULE (continued overleaf)

PERRAM'S ELECTRICAL AND TELEVISION PTY. LIMITED.

SECOND SCHEDULE (continued overleaf)

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

Jan Watson
Registrar General.

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

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

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

Vol. 10669 Fol. 249

[illegible]

18752625

$$= \frac{1}{n} 10006$$

五

M 560278D

M 90341.

17-11-19

12

-1453902

(Page 2 of 2 pages)

SECOND SCHEDULE (continued)								
NATURE	INSTRUMENT		PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
	NUMBER	DATE						
Mortgage	K752625	27.10.1967. 15.1.1967. 12.7.1967.	to Australian Equitable Insurance Company Limited	27.10.1967. 15.1.1967.	Jackson	Discharged	M100060	Jackson
Mortgage	M100061	4.12.1970	to Giuseppe Sesto of Giuseppe Manufacturers	26.1.1971	Jackson	Discharged	M560278	Jackson
LEASE	M903812	13.11.1970	to William Robert Knight of Fairfield Printers	23.2.1972	Jackson	Expired	16-5-1988	
X453903 ^P Lease to Time Warp Amusements Pty. Limited. Expires on 24-1-1991, with an option of renewal for 3 years. Registered 16-5-1988.								
CANCELLED								
SEE AUTO FOLIO								

CANCELLED

SEE AUTO FOLIO

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



SEARCH DATE

8/4/2019 12:25PM

FOLIO: 11/522284

First Title(s): SEE PRIOR TITLE(S)

Prior Title(s): VOL 10669 FOL 249

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
30/6/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
19/7/1993	I466034	LEASE	EDITION 1
23/5/1994		AMENDMENT: LOCAL GOVT AREA	
27/5/1999	5857696	REQUEST	EDITION 2
2/7/1999	5954218	TRANSFER	
2/7/1999	5954219	MORTGAGE	EDITION 3
1/3/2000	6608013	CAVEAT	
18/9/2000	6894147	VARIATION OF MORTGAGE	EDITION 4
18/9/2000	6956357	APPLICATION FOR PREPARATION OF LAPSING NOTICE	
10/4/2001	7534476	DISCHARGE OF MORTGAGE	
10/4/2001	7534477	MORTGAGE	EDITION 5
5/12/2001	8174483	DISCHARGE OF MORTGAGE	
5/12/2001	8174485	TRANSFER	EDITION 6
20/5/2008	AD963160	MORTGAGE	EDITION 7
5/9/2008	AE195091	DISCHARGE OF MORTGAGE	
5/9/2008	AE195092	TRANSFER	EDITION 8
24/9/2014	AI915271	MORTGAGE	EDITION 9
27/1/2015	AJ204493	CHANGE OF NAME	EDITION 10
1/9/2018	AN678863	DEPARTMENTAL DEALING	EDITION 11 CORD ISSUED
31/1/2019	AP35693	DISCHARGE OF MORTGAGE	

END OF PAGE 1 - CONTINUED OVER

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:25PM

FOLIO: 11/522284

PAGE 2

Recorded	Number	Type of Instrument
31/1/2019	AP35694	TRANSFER

C.T. Issue

EDITION 12

*** END OF SEARCH ***

liverpool 11

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Received: 08/04/2019 12:24:59



LAND
REGISTRY SERVICES

Title Search



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 11/522284

SEARCH DATE	TIME	EDITION NO	DATE
8/4/2019	12:23 PM	12	31/1/2019

LAND

LOT 11 IN DEPOSITED PLAN 522284
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP522284

FIRST SCHEDULE

LIVERPOOL CITY COUNCIL

(T AP35694)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

liverpool 11

PRINTED ON 8/4/2019

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LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:54PM

FOLIO: 1/1146671

First Title(s): OLD SYSTEM

Prior Title(s): BK 394 NO 497

Recorded	Number	Type of Instrument	C.T. Issue
8/12/2009	DP1146671	DEPOSITED PLAN	FOLIO CREATED
8/12/2009	CA138093	CONVERSION ACTION	CT NOT ISSUED

PRIOR TITLES(S) AS AMENDED:
BK 3806 NO 411.

15/5/2013	AH729721	DEPARTMENTAL DEALING	
15/5/2013	AH729862	DEPARTMENTAL DEALING	
9/9/2018	AN695392	DEPARTMENTAL DEALING	EDITION 1 CORD ISSUED

*** END OF SEARCH ***

nicola 1-2

PRINTED ON 8/4/2019

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Received: 08/04/2019 12:56:27



LAND REGISTRY SERVICES Title Search



NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/1146671

SEARCH DATE	TIME	EDITION NO	DATE
8/4/2019	12:53 PM	1	9/9/2018

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY NATIONAL AUSTRALIA BANK LIMITED.

LAND

LOT 1 IN DEPOSITED PLAN 1146671
AT LIVERPOOL
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1146671

FIRST SCHEDULE

VICTORDOT PTY LIMITED

(CA138093)

SECOND SCHEDULE (6 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- * 2 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT 1900. THIS TITLE WAS CREATED USING LAND AND PROPERTY INFORMATION RECORDS IN ACCORDANCE WITH SECTION 28D OF THE REAL PROPERTY ACT 1900. DELIVERY OF THE TITLE AND/OR REGISTRATION OF ANY DEALING WILL REQUIRE LODGMENT OF A STATEMENT OF TITLE PARTICULARS SUPPLYING COMPLETE OWNERSHIP DETAILS.
- 3 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT, 1900. ENTERED 8.12.2009 BK 3806 NO 411
- 4 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
- 5 BK 3806 NO 412 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
- 6 NOTIFICATION IN GOVERNMENT GAZETTE DATED 5.2.1960 FOLIO 353 - RESTRICTION ON THE USE OF LAND AFFECTED BY THE REALIGNMENT UNDER SECTION 27E MAIN ROADS ACT, 1924

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

nicola 1-2

PRINTED ON 8/4/2019

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LAND
REGISTRY
SERVICES

Historical Title



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

8/4/2019 12:56PM

FOLIO: 2/1146671

First Title(s): OLD SYSTEM

Prior Title(s): BK 3806 NO 409

Recorded	Number	Type of Instrument	C.T. Issue
15/5/2013	CA167380	CONVERSION ACTION	FOLIO CREATED CT NOT ISSUED
9/9/2018	AN695392	DEPARTMENTAL DEALING	EDITION 1 CORD ISSUED

*** END OF SEARCH ***

nicola 1-2

PRINTED ON 8/4/2019

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Received: 08/04/2019 12:56:28



FOLIO: 2/1146671

SEARCH DATE	TIME	EDITION NO	DATE
8/4/2019	12:56 PM	1	9/9/2018

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY NATIONAL AUSTRALIA BANK LIMITED.

LAND

LOT 2 IN DEPOSITED PLAN 1146671
AT LIVERPOOL
LOCAL GOVERNMENT AREA LIVERPOOL
PARISH OF ST LUKE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1146671

FIRST SCHEDULE

VICTORDOT PTY LIMITED

(CA167380)

SECOND SCHEDULE (6 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- * 2 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT 1900. THIS TITLE WAS CREATED USING LAND AND PROPERTY INFORMATION RECORDS IN ACCORDANCE WITH SECTION 28D OF THE REAL PROPERTY ACT 1900. DELIVERY OF THE TITLE AND/OR REGISTRATION OF ANY DEALING WILL REQUIRE LODGMENT OF A STATEMENT OF TITLE PARTICULARS SUPPLYING COMPLETE OWNERSHIP DETAILS.
- 3 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT, 1900. ENTERED 15.5.2013 BK 3806 NO 409
- 4 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
- 5 BK 3806 NO 410 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
- 6 NOTIFICATION IN GOVERNMENT GAZETTE DATED 5.2.1960 FOLIO 353 - RESTRICTION ON THE USE OF LAND AFFECTED BY THE REALIGNMENT UNDER SECTION 27E MAIN ROADS ACT 1924

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

nicola 1-2

PRINTED ON 8/4/2019



SafeWork NSW - 2 AUG 2016

SafeWork NSW
92-100 Donnison Street, Gosford, NSW, 2250
Locked Bag 2906, Lisarow, NSW, 2252 |
Customer Service Centre 13 10 50
licensing@safework.nsw.gov.au | www.safework.nsw.gov.au

Our Ref: D16/643672
Your ref: David Holden

27 July 2016

Attention: David Holden
Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

Dear Mr Holden,

RE SITE: 52 Scott St Liverpool NSW

I refer to your site search request received by SafeWork NSW on 26 July 2016 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above mentioned premises.

For further information or if you have any questions, please call our Customer Service Centre on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely,


Brent Jones
Customer Service Officer
Customer Service Centre - Operations
SafeWork NSW

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

Ref.: ANDY KABOK
Ppty: 22997
Applicant:
LIVERPOOL CITY COUNCIL
LOCKED BAG 7064
LIVERPOOL BC NSW 1871

Cert. No.: 940
Page No.: 1
Receipt No.: NA
Receipt Amt.: 53.00
Date: 23-Aug-2016

Property Desc: 52 SCOTT STREET, LIVERPOOL NSW 2170
LOT 17 DP 81842, LOT 1 DP 229979, LOT 2 DP 229979, LOT 3 DP 229979, LOT 22 DP 441010, LOT
23 DP 441010, LOT 1 DP 507070

**PRESCRIBED INFORMATION PROVIDED PURSUANT TO
SECTION 149(2) OF THE
ENVIRONMENTAL PLANNING AND
ASSESSMENT ACT 1979**

NOTE: The following information is provided pursuant to Section 149(2) of the Environmental Planning and Assessment Act (EP&A Act) 1979 as prescribed by Schedule 4 of the Environmental Planning and Assessment Regulation (EP&A Regulation) 2000 and is applicable to the subject land as of the date of this certificate.

The Environmental Planning and Assessment Amendment Act 1997 commenced operation on the 1 July 1998. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Amendment) Regulation 1998, Environmental Planning and Assessment (Further Amendment) Regulation 1998 and Environmental Planning and Assessment (Savings and Transitional) Regulation, 1998.

(1) Names of relevant planning instruments and DCPs

- (1) The name of each environment planning instrument that applies to the carrying out of Development on the land is/are listed below: -

Local Environmental Plans (LEPs)

Liverpool Local Environmental Plan 2008

State Environmental Planning Policies (SEPPs)

State Environmental Planning Policy No. 1 – Development Standards
State Environmental Planning Policy No. 19 – Bushland in Urban Areas
State Environmental Planning Policy No. 21 – Caravan Parks
State Environmental Planning Policy No. 30 – Intensive Agriculture
State Environmental Planning Policy No. 32 – Urban Consolidation (Redevelopment of Urban Land)
State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
State Environmental Planning Policy No. 44 – Koala Habitat
State Environmental Planning Policy No. 50 – Canal Estate Development
State Environmental Planning Policy No. 55 – Remediation of Land
State Environmental Planning Policy – (Exempt and Complying Development Codes) 2008
State Environmental Planning Policy No. 62 – Sustainable Aquaculture
State Environmental Planning Policy No. 64 – Advertising and Signage
State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development
State Environmental Planning Policy – (Building Sustainability Index: BASIX) 2004
State Environmental Planning Policy No. 70 – Affordable Housing (Revised Schemes)
State Environmental Planning Policy – (Infrastructure) 2007
State Environmental Planning Policy – (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy – (Miscellaneous Consent Provisions) 2007
State Environmental Planning Policy – (Affordable Rental Housing) 2009
State Environmental Planning Policy – (State and Regional Development) 2011
State Environmental Planning Policy – (Housing for Seniors or People with a Disability)

Deemed State Environmental Planning Policies (Deemed SEPPs)

Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment

This plan aims to preserve and protect and to encourage the restoration or rehabilitation of regionally significant sensitive natural environments, to preserve, enhance and protect the freshwater and estuarine ecosystems within the Catchment and to ensure that development achieves the environmental objectives for the Catchment.

- (2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Draft Local Environmental Plans (LEPs)

Draft Liverpool Local Environmental Plan 2008 (Amendment 52)

Draft State Environmental Planning Policies (SEPPs)

Draft State Environmental Planning Policy (Competition) 2010

- (3) The name of each development control plan that applies to the carrying out of development on the land.
Liverpool Development Control Plan 2008 (as amended).

- (4) In this clause, proposed environmental planning instrument includes a planning proposal for an LEP or a draft environmental planning instrument.

(2) ZONING AND LAND USE UNDER RELEVANT LOCAL ENVIRONMENTAL PLANS

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

Liverpool Local Environmental Plan 2008

- (a) Name of zone, and the EPI from which the land zoning information is derived.

B4 Mixed Use - Liverpool LEP 2008

- (b) The purposes for which development may be carried out within the zone without the need for development consent

Home-based child care; Home occupations

- (c) The purposes for which development may not be carried out within the zone except with development consent

Boarding houses; Building identification signs; Business identification signs; Car parks; Child care centres; Commercial premises; Community facilities; Depots; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Function centres; Helipads; Home businesses; Home industries; Hostels; Hotel or motel accommodation; Information and education facilities; Medical centres; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Shop top housing; Tourist and visitor accommodation; Vehicle repair stations; Veterinary hospitals; Water recreation structures

- (d) The purposes for which the instrument provides that development is prohibited within the Zone

Any development not specified in item (b) or (c)

- (e) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

The land's dimensions (when considered in isolation) are not such as to prohibit the erection of a dwelling house on the land, However, a dwelling house is prohibited within the zone that applies to the land.

- (f) Whether the land includes or comprises critical habitat:

The land does not include or comprise critical habitat.

(g) Whether the land is in a conservation area (however described):

The land is not located in a conservation area.

(h) Whether an item of environmental heritage (however described) is situated on the land:

Not item of environmental heritage is situation on the land.

Note: Schedule 1 of the Liverpool Local Environmental Plan 2008 permits certain development which would otherwise be prohibited within a zone. In addition, Clause 7.18 of the Liverpool Local Environmental Plan 2008 may prohibit certain development due to potential for exposure to aircraft noise, despite the zone. Any additional information which may affect the permissibility of development on the land is provided below:

Additional Uses

Nil

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

Not Applicable

3. COMPLYING DEVELOPMENT

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (C3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Complying development under the General Housing Code may be carried out on this land.

Complying development under the General Development Code may be carried out on this land.

Complying development under the Rural Housing Code may be carried out on this land.

Complying development under the Fire Safety Code may be carried out on this land.

Complying development under the Housing Alterations Code may be carried out on this land.

Complying Development under the Commercial and Industrial Alterations Code may be carried out on this land.

Complying Development under the Commercial and Industrial (New Buildings and Additions) Code may be carried out on this land.

Complying Development under the Subdivisions Code may be carried out on this land.

Complying Development under the Demolition Code may be carried out on this land.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (C3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

Not Applicable

- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Not Applicable

4. Coastal Protection Act 1979

There has been no notification from the Department of Public Works that the land is subject to the operation of Section 38 or 39 of the Coastal Protection Act, 1979.

4A Information relating to beaches and coasts

- (1) In relation to a coastal council—whether an order has been made under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

Not Applicable

- (2) In relation to a coastal council:

- (a) whether the council has been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land); and
- (b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Not Applicable

4B Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council—whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Not Applicable

5. Mine Subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

The land is not a mine subsidence district.

6. Road Widening and Road Realignment

Whether or not the land is affected by any road widening or road realignment under:

- (a) Division 2 of Part 3 of the Roads Act 1993, or
- (b) Any environmental planning instrument, or
- (c) Any resolution of the council.

The land is not affected by any road widening or road realignment.

7. Council and Other Public Authority Policies on Hazard Risk Restrictions

Whether or not the land is affected by a policy:

(a) Adopted by the council, or

(b) Adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

Land Slip

The land is not affected by a policy adopted by the Council, or any other public authority and notified to the council for the express purpose of its adoption being referred to in a planning certificate that restricts the development of the land because of the likelihood of land slip.

Bushfire

The land is not affected by a policy adopted by the Council, or any other public authority and notified to the council for the express purpose of its adoption being referred to in a planning certificate which restricts the development of the land because of the likelihood of bushfire.

Tidal Inundation

The land is not affected by a policy adopted by the Council, or any other public authority and notified to the council for the express purpose of its adoption being referred to in a planning certificate that restricts the development of the land because of the likelihood of tidal inundation.

Subsidence

The land is not affected by a policy adopted by the Council, or any other public authority and notified to the council for the express purpose of its adoption being referred to in a planning certificate that restricts the development of the land because of the likelihood of subsidence.

Acid Sulphate Soil

The land is affected by Liverpool Local Environmental Plan 2008 that restricts the development of the land because of the likelihood of Acid Sulphate Soils Class 5.

Other Risks

The land is not affected by a policy adopted by the Council, or any other public authority and notified to the council for the express purpose of its adoption being referred to in a planning certificate that restricts the development of the land because of the likelihood of any other risk.

7A. Flood Related Development Controls Information

Whether or not development on that land or part of the land for purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

- (1) Whether or not development on that land or part of the land for purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

Development on all of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings is not subject to flood related development controls.

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

Development on all of the land for any other purpose is not subject to flood related development controls.

- (3) Words and expressions in this clause have the same meanings as in the instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land Reserved for Acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

No environmental planning instrument or proposed environmental planning instrument applying to the land provides for the acquisition of the land by a public authority.

9. Contribution Plans

The name of each contribution plan applying to the land is/are outlined below: -

Liverpool Contributions Plan 2007 (Liverpool City Centre)

9A Biodiversity certified land

If the land is biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995), a statement to that effect.

The land is not biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act (1995).

10. Bio banking agreements

If the land is land to which a bio banking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

The land is not land to which a bio-banking agreement under part 7A of the *Threatened Species Conservation Act 1995* relates

11. Bushfire Prone Land

None of the land is bush fire prone land as defined in the Environmental Planning and Assessment Act 1979.

12. Property Vegetation Plans

If the land is land to which a Property Vegetation Plan under the Native Vegetation Act 2003 applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

The land is not land to which a property vegetation plan relates, as all land in the Liverpool Local Government Area is excluded from the operation of the Native Vegetation Act 2003.

13. Orders under Trees (Disputes between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

Council has not been notified of an order made under the Trees (Disputes between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

14. Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

No such direction applies to the land.

15. Site Compatibility Certificates and Conditions for Seniors Housing

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:

- (1) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

- (i) the period for which the certificate is current, and
- (ii) that a copy may be obtained from the head office of the Department of Planning, and

Council is not aware of a current site compatibility certificate (seniors housing) on the land.

- (2) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

There have been no such terms imposed as a condition of consent to development on the land.

16. Site Compatibility Certificates for Infrastructure

A statement of whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

- (a) the period for which the certificate is valid, and
- (b) that a copy may be obtained from the head office of the Department of Planning.

Council is not aware of a current site compatibility certificate (infrastructure) on the land.

17. Site compatibility certificates and conditions for affordable rental housing

- (1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:

- (a) the period for which the certificate is current, and
- (b) that a copy may be obtained from the head office of the Department of Planning.

Council is not aware of a current site compatibility certificate (affordable rental housing) on the land.

- (2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

There have been no such terms imposed as a condition of consent to development on the land.

18. Paper subdivision information

- (1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

No such plan applies to the land.

- (2) The date of any subdivision order that applies to the land.

No subdivision order applies to the land

- (3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

19. Site verification certificates

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land and, if there is a certificate, the statement is to include:

- (a) the matter certified by the certificate, and

Council is not aware of a current site verification certificate on the land.

Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land — see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

- (b) the date on which the certificate ceases to be current (if any), and

Not Applicable

- (c) that a copy may be obtained from the head office of the Department of Planning and Infrastructure.

Not Applicable

- Note.** The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:
- (a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act—if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued

Not Applicable
 - (b) that the land to which the certificate relates is subject to a management order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued

Not Applicable
 - (c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act — if it is the subject of such an approved proposal at the date when the certificate is issued

Not Applicable
 - (d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued

Not Applicable
 - (e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act — if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

Not Applicable
- Note.** Section 26 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 provides that a planning certificate must include advice about any exemption under section 23 or authorisation under section 24 of that Act if the council is provided with a copy of the exemption or authorisation by the Coordinator General under that Act.
- No such exemption or authorisation applies to the land.

20. Loose-fill Asbestos Insulation

Some residential homes located in the Liverpool may have been identified as containing loose-fill asbestos insulation, for example in the roof space. NSW Fair Trading maintains a Register of homes that are affected by loose-fill asbestos insulation.

You should make your own enquiries as to the age of the buildings on the land to which this certificate relates and, if it contains a building constructed prior to 1980, the council strongly recommends that any potential purchaser obtain advice from a licensed asbestos assessor to determine whether loose-fill asbestos is present in any building on the land and, if so, the health risks (if any) this may pose for the building's occupants.

Contact NSW Fair Trading for further information.

For further information, please contact
CALL CENTRE – 1300 36 2170



Luke West
Administration Services Coordinator
Liverpool City Council

**PLANNING CERTIFICATE UNDER SECTION 10.7
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

Ref.: 17-0527:70940
Ppty: 58405

Cert. No.: 2105

Applicant:
INFOTRACK PTY LIMITED
GPO BOX 4029
SYDNEY NSW 2001

Receipt No.: 4074227
Receipt Amt.: 133.00
Date: 23-Oct-2018

The information in this certificate is provided pursuant to Section 10.7(2)&(5) of the Environmental Planning and Assessment Act (EP&A Act) 1979, as prescribed by Schedule 4 of the Environmental Planning and Assessment Regulation (EP&A Regulation) 2000. The information has been extracted from Council's records, as they existed at the date listed on the certificate. Please note that the accuracy of the information contained within the certificate may change after the date of this certificate due to changes in Legislation, planning controls or the environment of the land.

The information in this certificate is applicable to the land described below.

Legal Description: LOT 100 DP 877435

Street Address: 40-46 SCOTT STREET, LIVERPOOL NSW 2170

Note: Items marked with an asterisk () may be reliant upon information transmitted to Council by a third party public authority. The accuracy of this information cannot be verified by Council and may be out-of-date. If such information is vital for the proposed land use or development, applicants should instead verify the information with the appropriate authority.*

Note: Commonly Used Abbreviations:

LEP: Local Environmental Plan
DCP: Development Control Plan
SEPP: State Environmental Planning Policy
EPI: Environmental Planning Instrument

1. Names of relevant planning instruments and DCPs

(a) The name of each EPI that applies to the carrying out of development on the land is/are listed below:

LEPs:

Liverpool LEP 2008

SEPPs*:

SEPP No. 33 – Hazardous and Offensive Development

SEPP No. 50 – Canal Estate Development

SEPP No. 55 – Remediation of Land

SEPP No. 62 – Sustainable Aquaculture

SEPP No. 65 – Design Quality of Residential Flat Development

SEPP (Building Sustainability Index: BASIX) 2004

SEPP No. 70 – Affordable Housing (Revised Schemes)

SEPP (Infrastructure) 2007

SEPP (Mining, Petroleum Production and Extractive Industries) 2007

SEPP (Miscellaneous Consent Provisions) 2007

SEPP (State and Regional Development) 2011

SEPP (Education Establishments and Child Care Facilities) 2017

SEPP (Vegetation in Non-Rural Areas) 2017

SEPP (Exempt and Complying Development Codes) 2008

SEPP (Affordable Rental Housing) 2009

SEPP (Housing for Seniors or People with a Disability) 2004

SEPP No 19 – Bushland in Urban Areas

SEPP No 21 – Caravan Parks

SEPP No 30 – Intensive Agriculture

SEPP No 44 – Koala Habitat Protection

SEPP No 64 – Advertising and Signage

Deemed SEPPs*:

Greater Metropolitan Regional Environmental Plan No 2 – Georges River Catchment

(b) The name of each draft EPI, or Planning Proposal (which has been subject to community consultation).

Draft LEPs:

N/A

Draft SEPPs*:

Draft SEPP (Competition) 2010

(c) The name of each DCP that applies to the carrying out of development on the land.

Liverpool DCP 2008

2. Zoning and land use under relevant LEPs and /or SEPPs

This section contains information required under subclauses 2 and 2A of Schedule 4 of the EP&A Regulation 2000. Subclause 2 of the regulation requires Council to provide information with respect to zoning and land-use in areas zoned by, or proposed to be zoned by, a LEP. Subclause 2A of Schedule 4 of the regulation requires Council to provide information with respect to zoning and land-use in areas which are zoned by, or proposed to be zoned by, the SEPP (Sydney Region Growth Centres) 2006. The land use and zoning information under any EPI applying to the land is given below.

- (a) Name of zone, and the EPI from which the land zoning information is derived.

B4 Mixed Use - Liverpool LEP 2008

- (b) The purposes for which development may be carried out within the zone without the need for development consent

Home-based child care; Home occupations

- (c) The purposes for which development may not be carried out within the zone except with development consent

Boarding houses; Building identification signs; Business identification signs; Car parks; Child care centres; Commercial premises; Community facilities; Depots; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Function centres; Helipads; Home businesses; Home industries; Hostels; Hotel or motel accommodation; Information and education facilities; Medical centres; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Shop top housing; Tourist and visitor accommodation; Vehicle repair stations; Veterinary hospitals; Water recreation structures

- (d) The purposes for which the instrument provides that development is prohibited within the zone

Any development not specified in item (b) or (c).

- (e) If a dwelling house is a permitted use, are there any principal development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house?

No

(f) Does the land include or comprise critical habitat?

No

(g) Is the land in a conservation area (however described):

No

(h) Is there an item of environmental heritage (however described) situated on the land

No

3. Complying development

The information below outlines whether complying development is permitted on the land as per the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1) (c3) and 1.19 SEPP of the (Exempt and Complying Development Codes) 2008.

The first column identifies the code(s). The second column describes the extent of the land in which exempt and complying development is permitted for the code(s) given to the immediate left. The third column indicates the reason as to why exempt and complying development is prohibited on some or all of the land, and will be blank if such development is permitted on all of the land.

Code	Extent of the land for which development is permitted:	The reason(s) as to why development is prohibited:
Housing Code, Low Rise Medium Density Housing Code, Rural Housing Code and Greenfield Housing Code	All	
Commercial and Industrial (New Buildings and Additions) Code	All	

Code	Extent of the land for which development is permitted:	The reason(s) as to why development is prohibited:
General Development Code, Container Recycling Facilities Code, Fire Safety Code, Housing Alterations Code, Commercial and Industrial Alterations Code, Subdivisions Code, and Demolition Code	All	

Note: If council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement below will describe that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Nil

4. Coastal protection*

Has the Department of Finance, Services and Innovation notified Council of the land being affected by 38 or 39 of the Coastal Protection Act, 1979?

No

4A. Certain information relating to beaches and coasts*

(a) Has an order has been made under Part 4D of the Coastal Protection Act 1979 on the land (or on public land adjacent to that land)?

No

(b) Has Council been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works have been placed on the land (or on public land adjacent to that land), and if works have been so placed, is council is satisfied that the works have been removed and the land restored in accordance with that Act?

Not applicable

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works*

Has the owner (or any previous owner) of the land consented, in writing, that the land is subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection

services that relate to existing coastal protection works (within the meaning of section 553B of that Act)?

No

5. Mine subsidence*

Is the land a proclaimed mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

No

6. Road widening and road realignment

Is the land affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993?*

No

(b) An EPI?

No

(c) A resolution of the council?

No

7. Council and other public authority policies on hazard risk restrictions

The following table lists hazard/risk policies that have been adopted by Council (or prepared by another public authority and subsequently adopted by Council). The right-most column indicates whether the land is subject to those policies.

Hazard/Risk	Adopted Policy	Does this hazard/risk policy apply to the land?
Landslip hazard	Nil	No
Bushfire hazard	Liverpool DCP 2008	No
	Liverpool Growth Centre Precincts DCP*	No
	Edmondson Park South DCP 2012	No
	Planning for Bushfire Protection (Rural Fire Services, 2006)*	No
	Pleasure Point Bushfire Management Plan	No
Tidal inundation	Nil	No

Hazard/Risk	Adopted Policy	Does this hazard/risk policy apply to the land?
Subsidence	Nil	No
Acid Sulphate Soils	Liverpool LEP 2008	Yes
	Liverpool DCP 2008	Yes
Potentially Contaminated Land	Liverpool DCP 2008	Yes, see section 10 of Part 1 of the Liverpool DCP 2008
	Liverpool Growth Centre Precincts DCP*	No
Potentially Saline Soils	Liverpool DCP 2008	Yes
	Liverpool Growth Centre Precincts DCP*	No

Note: Land for which a policy applies does not confirm that the land is affected by that hazard/risk. For example, all land for which the Liverpool DCP applies is subject to controls relating to contaminated land, as this policy contains triggers and procedures for identifying potential contamination. Applicants are encouraged to review the relevant policy, and other sections of this certificate, to determine what effect, if any, the policy may have on the land.

7A. Flood related development controls information

- (a) For the purpose of residential accommodation (excluding group homes or seniors housing), is the land, or part of the land, within the flood planning area and subject to flood planning controls?

No

For details of these controls, please refer to the flooding section of the relevant DCP(s) as specified in Section 1(c) of this certificate.

- (b) Is development on that land, or part of the land, for any other purpose subject to flood related development controls?

No

For details of these controls, please refer to the flooding section of the relevant DCP(s) as specified in Section 1(c) of this certificate.

Note: Words and expressions in this clause have the same meanings as in the instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Does a LEP, draft LEP, SEPP or draft SEPP identify the acquisition of the land, or part of the land, by a public authority, as referred to in section 3.15 of the Act?

No

9. Contribution Plans

Liverpool Contributions Plan 2007 - Liverpool City Centre

9A. Biodiversity certified land*

Is the land, or part of the land, biodiversity certified land (within the meaning of Part 8 of the Biodiversity Conservation Act 2016)?

No

10. Biobanking agreements*

Is the land subject to a bio-banking agreement under Part 6 of the Biodiversity Conservation Act 2016, as notified to Council by the Chief Executive of the Office of Environment and Heritage?

No

10A. Native vegetation clearing set asides

Does the land contain a set aside area under section 60ZC of the Local Land Services Act 2013?

No, Liverpool is excluded from section 60ZC of the Local Land Services Act 2013

11. Bushfire prone land

Is the land or part of the land, bushfire prone land as defined by the EP&A Act 1979?

No

12. Property vegetation plans*

Is Council aware of the land being subject to a Property Vegetation Plan under the Native Vegetation Act 2003?

No, Liverpool is excluded from the operation of the Native Vegetation Act 2003

13. Orders under Trees (Disputes between Neighbours) Act 2006*

Does an order, made under the Trees (Disputes Between Neighbours) Act 2006 in relation to carrying out of work in relation to a tree on the land, apply?

No, Council has not been notified of an order

14. Directions under Part 3A*

Is there a direction (made by the Minister) that a provision of an EPI in relation to a development does not have effect?

No

15. Site compatibility certificates and conditions for seniors housing*

(a) Is there is a current site compatibility certificate (seniors housing), in respect of proposed development on the land?

No, Council has not been notified of an order.

16. Site compatibility certificates for infrastructure*

(a) Is there is a current site compatibility certificate (infrastructure), in respect of proposed development on the land?

No, Council has not been notified of an order

17. Site compatibility certificates and conditions for affordable rental housing*

Is there is a current site compatibility certificate (Affordable housing), in respect of proposed development on the land?

No, Council has not been notified of an order.

18. Paper subdivision information*

Does any development plan adopted by a relevant authority (or proposed plan subject to a consent ballot) apply to the land? If so the date of the subdivision order that applies to the land.

No

19. Site verification certificates*

Does a current site verification certificate, apply to the land?

No, Council is not aware of a site verification certificate

20. Loose-fill asbestos insulation *

Is a dwelling on the land listed on the register (maintained by the NSW Department of Fair Trading) as containing loose-fill asbestos insulation?

No

Note: despite any listing on the register, any buildings constructed before 1980 may contain loose-fill asbestos insulation or other asbestos products.

21. Affected building notices and building product rectification orders*

Is there any affected building notice (as in Part 4 of the Building Products (Safety) Act 2017) of which the council is aware that is in force in respect of the land?

No

Is there any building product rectification order (as in the Building Products (Safety) Act 2017) of which the council is aware that is in force in respect of the land and has not been fully complied with?

No

Is there any notice of intention to make a building product rectification order (as in the Building Products (Safety) Act 2017) of which the council is aware has been given in respect of the land and is outstanding?

No

22. Contaminated land

Is the land:

(a) Significantly contaminated land within the meaning of that Act?

No

(b) Subject to a management order within the meaning of that Act?

No

(c) Subject of an approved voluntary management proposal within the meaning of that Act?

No

(d) Subject to an ongoing maintenance order within the meaning of that Act?

No

(e) Subject of a site audit statement within the meaning of that Act? *

No

Note: in this clause 'the Act' refers to the Contaminated Land Management Act 1997.

THE FOLLOWING INFORMATION IS PROVIDED PURSUANT TO SECTION 10.7(5) OF THE
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT (EP&A ACT) 1979

1. Controlled access road

Does the land have a boundary to a controlled access road?

No

2. Sewer Access and On-site Management

Nil

3. Other Information in Relation to Water Restrictions

Nil

4. Contaminated Land

Nil

5. Airport Noise Affection*

Nil

6. Environmentally Significant Land

Nil

7. Archaeological Management Plan

Nil

8. Western Sydney Long Term Strategic Corridors*

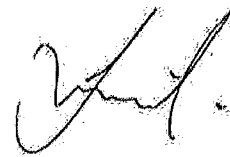
Has the NSW Government identified that the land may be traversed by, or located near, a future transport corridor as identified in the Western Sydney Long Term Strategic Corridors project?

No

For more information on the Western Sydney Long Term Strategic Corridors, visit:
<https://www.transport.nsw.gov.au/corridors>

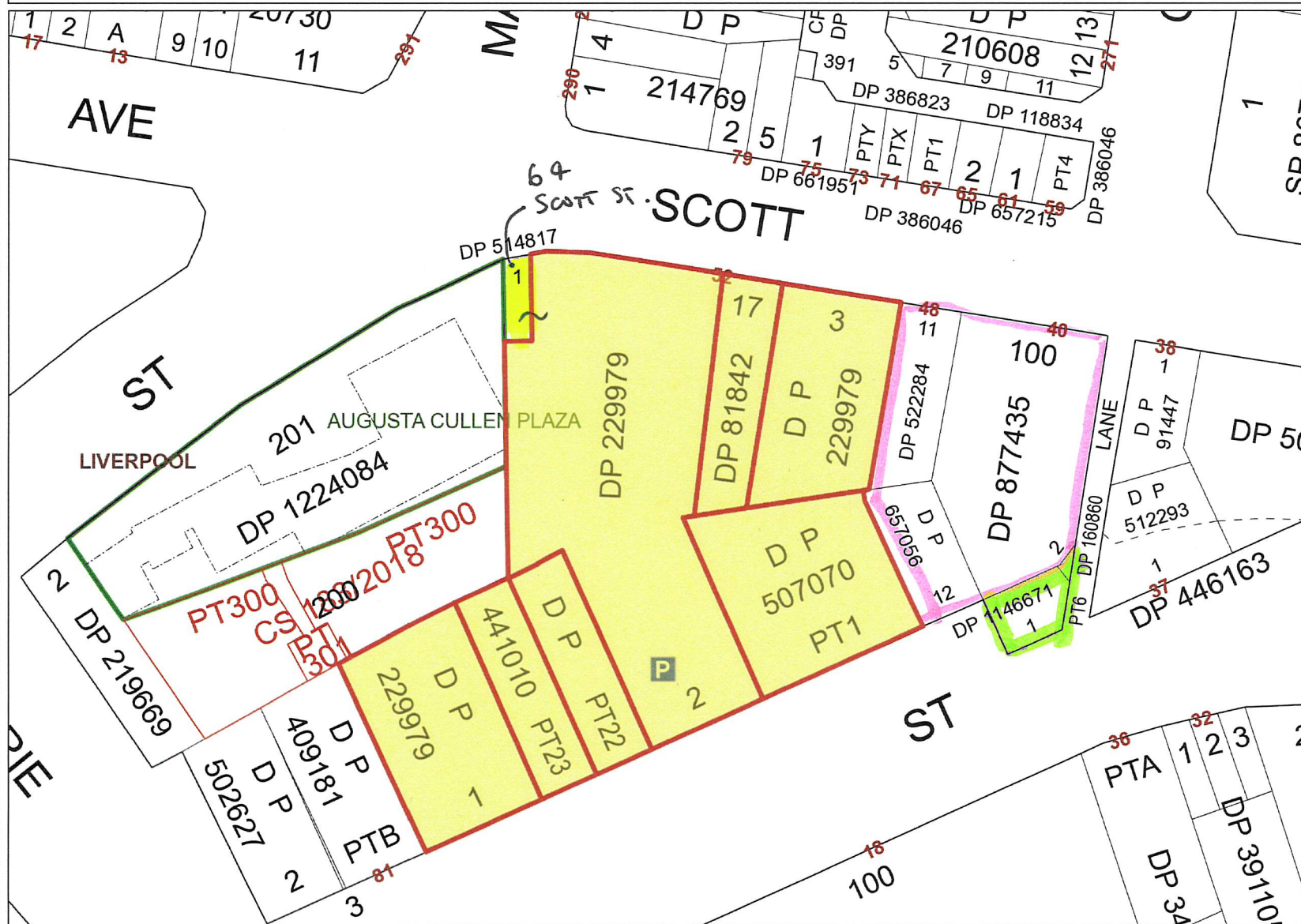
9. Offensive Odour and Rural Land Uses

Nil



For further information, please contact
CALL CENTRE – 1300 36 2170

Luke West
Administration Services Coordinator
Liverpool City Council



Legend

- SUBURB
- PLACES OF INTEREST**
- Library
- Liverpool City Council Building
- Liverpool Public Hospital
- Parking
- Police Station
- Public Toilets
- Sydney Southwest Private Hospital
- RAILWAY STATION
- + RAILWAY
- PROPOSED PARCEL
- CADASTRAL LINE**
- LOT LINE
- ROAD LINE
- ROAD WIDENING
- UNSURVEYED LINES
- LEASE
- STRATUM
- WATERLINE
- WATERPOLY
- PARK and OPEN SPACE
- PROPERTY

Notes

- LCC LAND
- OTHERS (FUTURE ROADS)

While every care is taken to ensure the accuracy of this data, the Liverpool City Council and the copyright owners, in permitting the use of this data, make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.



A4@ 1: 1,147

COORDINATE SYSTEM: GDA94 MGA ZONE 56

**PLANNING CERTIFICATE UNDER SECTION 10.7
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

Ref.: 17-0528:70942
Ppty: 22996

Cert. No.: 2106

Applicant:
INFOTRACK PTY LIMITED
GPO BOX 4029
SYDNEY NSW 2001

Receipt No.: 4074241
Receipt Amt.: 133.00
Date: 23-Oct-2018

The information in this certificate is provided pursuant to Section 10.7(2)&(5) of the Environmental Planning and Assessment Act (EP&A Act) 1979, as prescribed by Schedule 4 of the Environmental Planning and Assessment Regulation (EP&A Regulation) 2000. The information has been extracted from Council's records, as they existed at the date listed on the certificate. Please note that the accuracy of the information contained within the certificate may change after the date of this certificate due to changes in Legislation, planning controls or the environment of the land.

The information in this certificate is applicable to the land described below.

Legal Description: LOT 11 DP 522284

Street Address: 48 SCOTT STREET, LIVERPOOL NSW 2170

Note: Items marked with an asterisk () may be reliant upon information transmitted to Council by a third party public authority. The accuracy of this information cannot be verified by Council and may be out-of-date. If such information is vital for the proposed land use or development, applicants should instead verify the information with the appropriate authority.*

Note: Commonly Used Abbreviations:

LEP: Local Environmental Plan
DCP: Development Control Plan
SEPP: State Environmental Planning Policy
EPI: Environmental Planning Instrument

1. Names of relevant planning instruments and DCPs

- (a) The name of each EPI that applies to the carrying out of development on the land is/are listed below:

LEPs:

Liverpool LEP 2008

SEPPs*:

SEPP No. 33 – Hazardous and Offensive Development
SEPP No. 50 – Canal Estate Development
SEPP No. 55 – Remediation of Land
SEPP No. 62 – Sustainable Aquaculture
SEPP No. 65 – Design Quality of Residential Flat Development
SEPP (Building Sustainability Index: BASIX) 2004
SEPP No. 70 – Affordable Housing (Revised Schemes)
SEPP (Infrastructure) 2007
SEPP (Mining, Petroleum Production and Extractive Industries) 2007
SEPP (Miscellaneous Consent Provisions) 2007
SEPP (State and Regional Development) 2011
SEPP (Education Establishments and Child Care Facilities) 2017
SEPP (Vegetation in Non-Rural Areas) 2017
SEPP (Exempt and Complying Development Codes) 2008
SEPP (Affordable Rental Housing) 2009
SEPP (Housing for Seniors or People with a Disability) 2004
SEPP No 19 – Bushland in Urban Areas
SEPP No 21 – Caravan Parks
SEPP No 30 – Intensive Agriculture
SEPP No 44 – Koala Habitat Protection
SEPP No 64 – Advertising and Signage

Deemed SEPPs*:

Greater Metropolitan Regional Environmental Plan No 2 – Georges River Catchment

- (b) The name of each draft EPI, or Planning Proposal (which has been subject to community consultation).

Draft LEPs:

N/A

Draft SEPPs*:

Draft SEPP (Competition) 2010

- (c) The name of each DCP that applies to the carrying out of development on the land.

Liverpool DCP 2008

2. Zoning and land use under relevant LEPs and /or SEPPs

This section contains information required under subclauses 2 and 2A of Schedule 4 of the EP&A Regulation 2000. Subclause 2 of the regulation requires Council to provide information with respect to zoning and land-use in areas zoned by, or proposed to be zoned by, a LEP. Subclause 2A of Schedule 4 of the regulation requires Council to provide information with respect to zoning and land-use in areas which are zoned by, or proposed to be zoned by, the SEPP (Sydney Region Growth Centres) 2006. The land use and zoning information under any EPI applying to the land is given below.

- (a) Name of zone, and the EPI from which the land zoning information is derived.

B4 Mixed Use - Liverpool LEP 2008

- (b) The purposes for which development may be carried out within the zone without the need for development consent

Home-based child care; Home occupations

- (c) The purposes for which development may not be carried out within the zone except with development consent

Boarding houses; Building identification signs; Business identification signs; Car parks; Child care centres; Commercial premises; Community facilities; Depots; Educational establishments; Entertainment facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Function centres; Helipads; Home businesses; Home Industries; Hostels; Hotel or motel accommodation; Information and education facilities; Medical centres; Multi dwelling housing; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Shop top housing; Tourist and visitor accommodation; Vehicle repair stations; Veterinary hospitals; Water recreation structures

- (d) The purposes for which the Instrument provides that development is prohibited within the zone

Any development not specified in item (b) or (c).

- (e) If a dwelling house is a permitted use, are there any principal development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house?

No

(f) Does the land include or comprise critical habitat?

No

(g) Is the land in a conservation area (however described):

No

(h) Is there an item of environmental heritage (however described) situated on the land

No

3. Complying development

The information below outlines whether complying development is permitted on the land as per the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1) (c3) and 1.19 SEPP of the (Exempt and Complying Development Codes) 2008.

The first column identifies the code(s). The second column describes the extent of the land in which exempt and complying development is permitted for the code(s) given to the immediate left. The third column indicates the reason as to why exempt and complying development is prohibited on some or all of the land, and will be blank if such development is permitted on all of the land.

Code	Extent of the land for which development is permitted:	The reason(s) as to why development is prohibited:
Housing Code, Low Rise Medium Density Housing Code, Rural Housing Code and Greenfield Housing Code	All	
Commercial and Industrial (New Buildings and Additions) Code	All	

Code	Extent of the land for which development is permitted:	The reason(s) as to why development is prohibited:
General Development Code, Container Recycling Facilities Code, Fire Safety Code, Housing Alterations Code, Commercial and Industrial Alterations Code, Subdivisions Code, and Demolition Code	All	

Note: If council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement below will describe that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Nil

4. Coastal protection*

Has the Department of Finance, Services and Innovation notified Council of the land being affected by 38 or 39 of the Coastal Protection Act, 1979?

No

4A. Certain information relating to beaches and coasts*

(a) Has an order has been made under Part 4D of the Coastal Protection Act 1979 on the land (or on public land adjacent to that land)?

No

(b) Has Council been notified under section 55X of the Coastal Protection Act 1979 that temporary coastal protection works have been placed on the land (or on public land adjacent to that land), and if works have been so placed, is council is satisfied that the works have been removed and the land restored in accordance with that Act?

Not applicable

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works*

Has the owner (or any previous owner) of the land consented, in writing, that the land is subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection

services that relate to existing coastal protection works (within the meaning of section 553B of that Act)?

No

5. Mine subsidence*

Is the land a proclaimed to mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

No

6. Road widening and road realignment

Is the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993?*

No

(b) An EPI?

No

(c) A resolution of the council?

No

7. Council and other public authority policies on hazard risk restrictions

The following table lists hazard/risk policies that have been adopted by Council (or prepared by another public authority and subsequently adopted by Council). The right-most column indicates whether the land is subject to those policies.

Hazard/Risk	Adopted Policy	Does this hazard/risk policy apply to the land?
Landslip hazard	Nil	No
Bushfire hazard	Liverpool DCP 2008	No
	Liverpool Growth Centre Precincts DCP*	No
	Edmondson Park South DCP 2012	No
	Planning for Bushfire Protection (Rural Fire Services, 2006)*	No
	Pleasure Point Bushfire Management Plan	No
Tidal inundation	Nil	No

Hazard/Risk	Adopted Policy	Does this hazard/risk policy apply to the land?
Subsidence	Nil	No
Acid Sulphate Soils	Liverpool LEP 2008	Yes
	Liverpool DCP 2008	Yes
Potentially Contaminated Land	Liverpool DCP 2008	Yes, see section 10 of Part 1 of the Liverpool DCP 2008
	Liverpool Growth Centre Precincts DCP*	No
Potentially Saline Soils	Liverpool DCP 2008	Yes
	Liverpool Growth Centre Precincts DCP*	No

Note: Land for which a policy applies does not confirm that the land is affected by that hazard/risk. For example, all land for which the Liverpool DCP applies is subject to controls relating to contaminated land, as this policy contains triggers and procedures for identifying potential contamination. Applicants are encouraged to review the relevant policy, and other sections of this certificate, to determine what effect, if any, the policy may have on the land.

7A. Flood related development controls information

(a) For the purpose of residential accommodation (excluding group homes or seniors housing), is the land, or part of the land, within the flood planning area and subject to flood planning controls?

No

For details of these controls, please refer to the flooding section of the relevant DCP(s) as specified in Section 1(c) of this certificate.

(b) Is development on that land, or part of the land, for any other purpose subject to flood related development controls?

No

For details of these controls, please refer to the flooding section of the relevant DCP(s) as specified in Section 1(c) of this certificate.

Note: Words and expressions in this clause have the same meanings as in the instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Does a LEP, draft LEP, SEPP or draft SEPP identify the acquisition of the land, or part of the land, by a public authority, as referred to in section 3.15 of the Act?

No

9. Contribution Plans

Liverpool Contributions Plan 2007 - Liverpool City Centre

9A. Biodiversity certified land*

Is the land, or part of the land, biodiversity certified land (within the meaning of Part 8 of the Biodiversity Conservation Act 2016)?

No

10. Biobanking agreements*

Is the land subject to a bio-banking agreement under Part 6 of the Biodiversity Conservation Act 2016, as notified to Council by the Chief Executive of the Office of Environment and Heritage?

No

10A. Native vegetation clearing set asides

Does the land contain a set aside area under section 60ZC of the Local Land Services Act 2013?

No, Liverpool is excluded from section 60ZC of the Local Land Services Act 2013

11. Bushfire prone land

Is the land or part of the land, bushfire prone land as defined by the EP&A Act 1979?

No

12. Property vegetation plans*

Is Council aware of the land being subject to a Property Vegetation Plan under the Native Vegetation Act 2003?

No, Liverpool is excluded from the operation of the Native Vegetation Act 2003

13. Orders under Trees (Disputes between Neighbours) Act 2006*

Does an order, made under the Trees (Disputes Between Neighbours) Act 2006 in relation to carrying out of work in relation to a tree on the land, apply?

No, Council has not been notified of an order

14. Directions under Part 3A*

Is there a direction (made by the Minister) that a provision of an EPI in relation to a development does not have effect?

No

15. Site compatibility certificates and conditions for seniors housing*

(a) Is there is a current site compatibility certificate (seniors housing), in respect of proposed development on the land?

No, Council has not been notified of an order.

16. Site compatibility certificates for infrastructure*

(a) Is there is a current site compatibility certificate (infrastructure), in respect of proposed development on the land?

No, Council has not been notified of an order

17. Site compatibility certificates and conditions for affordable rental housing*

Is there is a current site compatibility certificate (Affordable housing), in respect of proposed development on the land?

No, Council has not been notified of an order.

18. Paper subdivision information*

Does any development plan adopted by a relevant authority (or proposed plan subject to a consent ballot) apply to the land? If so the date of the subdivision order that applies to the land.

No

19. Site verification certificates*

Does a current site verification certificate, apply to the land?

No, Council is not aware of a site verification certificate

20. Loose-fill asbestos insulation *

Is a dwelling on the land listed on the register (maintained by the NSW Department of Fair Trading) as containing loose-fill asbestos insulation?

No

Note: despite any listing on the register, any buildings constructed before 1980 may contain loose-fill asbestos insulation or other asbestos products.

21. Affected building notices and building product rectification orders*

Is there any affected building notice (as in Part 4 of the Building Products (Safety) Act 2017) of which the council is aware that is in force in respect of the land?

No

Is there any building product rectification order (as in the Building Products (Safety) Act 2017) of which the council is aware that is in force in respect of the land and has not been fully complied with?

No

Is there any notice of intention to make a building product rectification order (as in the Building Products (Safety) Act 2017) of which the council is aware has been given in respect of the land and is outstanding?

No

22. Contaminated land

Is the land:

(a) Significantly contaminated land within the meaning of that Act?

No

(b) Subject to a management order within the meaning of that Act?

No

(c) Subject of an approved voluntary management proposal within the meaning of that Act?

No

(d) Subject to an ongoing maintenance order within the meaning of that Act?

No

(e) Subject of a site audit statement within the meaning of that Act? *

No

Note: in this clause 'the Act' refers to the Contaminated Land Management Act 1997.

THE FOLLOWING INFORMATION IS PROVIDED PURSUANT TO SECTION 10.7(5) OF THE
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT (EP&A ACT) 1979

1. Controlled access road

Does the land have a boundary to a controlled access road?

No

2. Sewer Access and On-site Management

Nil

3. Other Information in Relation to Water Restrictions

Nil

4. Contaminated Land

Nil

5. Airport Noise Affection*

Nil

6. Environmentally Significant Land

Nil

7. Archaeological Management Plan

Nil

8. Western Sydney Long Term Strategic Corridors*

Has the NSW Government identified that the land may be traversed by, or located near, a future transport corridor as identified in the Western Sydney Long Term Strategic Corridors project?

No

For more information on the Western Sydney Long Term Strategic Corridors, visit:
<https://www.transport.nsw.gov.au/corridors>

9. Offensive Odour and Rural Land Uses

Nil



For further information, please contact
CALL CENTRE – 1300 36 2170

Luke West
Administration Services Coordinator
Liverpool City Council

Appendix D

Data Quality Assessment

DATA QUALITY ASSESSMENT

Q1. Data Quality Objectives

The preliminary groundwater contamination and waste classification assessment was prepared with reference to the seven step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999 as amended 2013 (NEPC, 2013). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

The DQOs have been addressed within the report as shown in Table Q1.

Table Q1: Data Quality Objectives

Data Quality Objective	Report Section where Addressed
State the Problem	S1 Introduction
Identify the Decision	S1 Introduction (objective) S10 Discussion of Results S11 Discussion and Recommendations S12 Conclusion
Identify Inputs to the Decision	S1 Introduction S2 Scope of Works S3 Site Identification and Description S4 Regional Geology and Hydrogeology S6 Conceptual Site Model S8 Site Assessment Criteria S9 Results of Investigation S10 Discussion of Results
Define the Boundary of the Assessment	S3.1 Site Identification Site Drawing 1 - Appendix A
Develop a Decision Rule	S8 Site Assessment Criteria
Specify Acceptable Limits on Decision Errors	S7 Fieldwork and Analysis S8 Site Assessment Criteria QA/QC Procedures and Results – Sections Q2, Q3

Data Quality Objective	Report Section where Addressed
Optimise the Design for Obtaining Data	S2 Scope of Works S7.6 Sample Location and Rationale QA/QC Procedures and Results – Sections Q2, Q3

Q2. FIELD AND LABORATORY QUALITY CONTROL

The field and laboratory quality control (QC) procedures and results are summarised in Tables Q2 and Q3. Reference should be made to the fieldwork and analysis procedures in Section 7 of the report and the laboratory results certificates in Appendix E for further details.

Table Q2: Field QC

Item	Frequency	Acceptance Criteria	Achievement
Laboratory replicates	10% primary samples	RPD <30% inorganics), <50% (organics)	yes ¹
Trip Spikes	1 per field batch	60-140% recovery	yes
Trip Blanks	1 per field batch	<PQL/LOR	yes

NOTES: 1 qualitative assessment of RPD results overall; refer Section Q2.1

Table Q3: Laboratory QC

Item	Frequency	Acceptance Criteria	Achievement
Analytical laboratories used		NATA accreditation	yes
Holding times		In accordance with NEPC (2013) which references various Australian and international standards	yes
Laboratory / Reagent Blanks	1 per lab batch	<PQL	yes
Laboratory duplicates	10% primary samples	Laboratory specific ¹	
Matrix Spikes	1 per lab batch	70-130% recovery (inorganics); 60-140% (organics); 10-140% (SVOC, speciated phenols)	yes
Surrogate Spikes	organics by GC	70-130% recovery (inorganics); 60-140% (organics); 10-140% (SVOC, speciated phenols)	yes
Control Samples	1 per lab batch	70-130% recovery (inorganics); 60-140% (organics); 10-140% (SVOC, speciated phenols)	yes

Note: 1 ELS: <5xPQL – any RPD; >5xPQL – 0-50%RPD

In summary, the QC data is considered to be of sufficient quality to be acceptable for the assessment.

Laboratory Replicates

Intra-laboratory replicates were analysed as an internal check of the reproducibility within the primary laboratory ELS and as a measure of consistency of sampling techniques. The comparative results of analysis between original and intra-laboratory replicate samples are summarised in Table Q4.

Note that, where both samples are below LOR/PQL the difference and RPD has been given as zero. Where one sample is reported below LOR/PQL, but a concentration is reported for the other, the LOR/PQL value has been used for calculation of the RPD for the less than LOR/PQL sample.

Table Q4: Relative Percentage Difference Results – Intra-laboratory Replicates

Lab	Sample ID	Date Sampled	Media	Units	Metals								PAH	TRH				BTEX			
					As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Naphthalene	C6-C10	>C10-C16	>C16-C34	>C34-C40	Benzene	Toluene	Ethylbenzene	xylene
ELS	BH1/0.5-0.6	15/8/2016	Natural	mg/kg	5	<0.4	7	40	18	<0.4	13	67	<1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
ELS	BD1	15/8/2016	Natural	mg/kg	5	<0.4	7	42	18	<0.4	15	83	<1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
Difference				mg/kg	0	0	0	2	0	0	2	16	0	0	0	0	0	0	0	0	0
RPD				%	0	0	0	5	0	0	14	21	0	0	0	0	0	0	0	0	0
ELS	BH7/0.4-0.5	16/8/2016	Natural	mg/kg	5	<0.4	4	11	4	<0.1	3	18	<1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
ELS	BD2	16/8/2016	Natural	mg/kg	<4	<0.4	4	9	4	<0.1	3	16	<1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
Difference				mg/kg	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
RPD				%	22	0	0	20	0	0	0	12	0	0	0	0	0	0	0	0	0
ELS	BH101/0.7-0.8	26/3/2019	Natural	mg/kg	6	<0.4	6	11	22	0.5	3	35	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
ELS	BD3/20190326	26/3/2019	Natural	mg/kg	10	<0.4	9	20	24	<0.1	7	47	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<3
Difference				mg/kg	4	0	3	9	2	0.4	4	12	0	0	0	0	0	0	0	0	0
RPD				%	50	0	40	58	9	133	80	29	0	0	0	0	0	0	0	0	0
ELS	BH1	19/8/2016	Water	µg/L	2	<0.1	<1	3	<1	<0.05	3	1	<1	<10	<50	<100	<100	<1	<1	<1	<3
ELS	BD1	19/8/2016	Water	µg/L	2	<0.1	<1	3	<1	<0.05	3	1	<1	<10	<50	<100	<100	<1	<1	<1	<3
Difference				µg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RPD				%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The calculated RPD values were within the acceptable range of ± 30 for inorganic analytes and $\pm 50\%$ for organics with the exception of those in bold. However, this is not considered to be significant because:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedances occurred. High RPD values reflect the small differences between two small numbers;
- Soil replicates, rather than homogenised soil duplicates, were used to minimise the risk of possible volatile loss, hence greater variability can be expected;
- Most of the recorded concentrations being relatively close to the LOR/PQL. High RPD values reflect the low concentrations;
- The majority of RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQIs.

Overall, the intra-laboratory replicate comparisons indicate that the sampling techniques were generally consistent and repeatable.

Q3. Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following data quality indicators (DQIs):

- Completeness – a measure of the amount of usable data from a data collection activity;
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – the confidence (qualitative) of data representativeness of media present on-site;
- Precision – a measure of variability or reproducibility of data; and
- Accuracy – a measure of closeness of the data to the 'true' value.

The DQIs were assessed as outlined in the following Table Q5.

Table Q5: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Planned systematic and selected target locations sampled (within site access constraints); Preparation of field logs, sample location plan and chain of custody (COC) records; Preparation of field groundwater sampling sheets; Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody;

Data Quality Indicator	Method(s) of Achievement
	Samples analysed for contaminants of potential concern (COPC) identified in the Conceptual Site Model (CSM); Completion of COC documentation; NATA endorsed laboratory certificates provided by the laboratory; Satisfactory frequency and results for field and laboratory QC samples as discussed in Section Q2.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project; Works undertaken by appropriately experienced and trained DP environmental scientist / engineer; Use of NATA registered laboratories, with test methods the same or similar between laboratories; Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled; Spatial and temporal distribution of sample locations (within site access constraints); Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQOs; Samples were extracted and analysed within holding times; Samples were analysed in accordance with the analysis request.
Precision	Acceptable RPD between original samples and replicates; Satisfactory results for all other field and laboratory QC samples.
Accuracy	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been complied with. As such, it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

Appendix E

Borehole and Test pit Logs



Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low

reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:
4,6,7
N=13
- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:
15, 30/40 mm

Sampling Methods

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.



Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS 1726-1993, Geotechnical Site Investigations Code. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	20 - 63
Medium gravel	6 - 20
Fine gravel	2.36 - 6
Coarse sand	0.6 - 2.36
Medium sand	0.2 - 0.6
Fine sand	0.075 - 0.2

The proportions of secondary constituents of soils are described as:

Term	Proportion	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	20 - 35%	Sandy Clay
Slightly	12 - 20%	Slightly Sandy Clay
With some	5 - 12%	Clay with some sand
With a trace of	0 - 5%	Clay with a trace of sand

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	vs	<12
Soft	s	12 - 25
Firm	f	25 - 50
Stiff	st	50 - 100
Very stiff	vst	100 - 200
Hard	h	>200

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	SPT N value	CPT qc value (MPa)
Very loose	vl	<4	<2
Loose	l	4 - 10	2 - 5
Medium dense	md	10 - 30	5 - 15
Dense	d	30 - 50	15 - 25
Very dense	vd	>50	>25

Soil Descriptions

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Transported soils - formed somewhere else and transported by nature to the site; or
- Filling - moved by man.

Transported soils may be further subdivided into:

- Alluvium - river deposits
- Lacustrine - lake deposits
- Aeolian - wind deposits
- Littoral - beach deposits
- Estuarine - tidal river deposits
- Talus - scree or coarse colluvium
- Slopewash or Colluvium - transported downslope by gravity assisted by water. Often includes angular rock fragments and boulders.



Rock Strength

Rock strength is defined by the Point Load Strength Index ($Is_{(50)}$) and refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects. The test procedure is described by Australian Standard 4133.4.1 - 2007. The terms used to describe rock strength are as follows:

Term	Abbreviation	Point Load Index $Is_{(50)}$ MPa	Approximate Unconfined Compressive Strength MPa*
Extremely low	EL	<0.03	<0.6
Very low	VL	0.03 - 0.1	0.6 - 2
Low	L	0.1 - 0.3	2 - 6
Medium	M	0.3 - 1.0	6 - 20
High	H	1 - 3	20 - 60
Very high	VH	3 - 10	60 - 200
Extremely high	EH	>10	>200

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Extremely weathered	EW	Rock substance has soil properties, i.e. it can be remoulded and classified as a soil but the texture of the original rock is still evident.
Highly weathered	HW	Limonite staining or bleaching affects whole of rock substance and other signs of decomposition are evident. Porosity and strength may be altered as a result of iron leaching or deposition. Colour and strength of original fresh rock is not recognisable
Moderately weathered	MW	Staining and discolouration of rock substance has taken place
Slightly weathered	SW	Rock substance is slightly discoloured but shows little or no change of strength from fresh rock
Fresh stained	Fs	Rock substance unaffected by weathering but staining visible along defects
Fresh	Fr	No signs of decomposition or staining

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with some fragments
Fractured	Core lengths of 40-200 mm with some shorter and longer sections
Slightly Fractured	Core lengths of 200-1000 mm with some shorter and longer sections
Unbroken	Core lengths mostly > 1000 mm

Rock Descriptions

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or better. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Symbols & Abbreviations

Douglas Partners



Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U ₅₀	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

Symbols & Abbreviations

Graphic Symbols for Soil and Rock

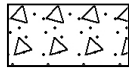
General



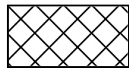
Asphalt



Road base



Concrete



Filling

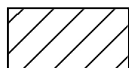
Soils



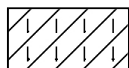
Topsoil



Peat



Clay



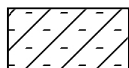
Silty clay



Sandy clay



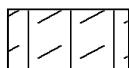
Gravelly clay



Shaly clay



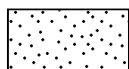
Silt



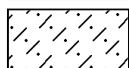
Clayey silt



Sandy silt



Sand



Clayey sand



Silty sand



Gravel



Sandy gravel



Cobbles, boulders



Talus

Sedimentary Rocks



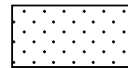
Boulder conglomerate



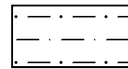
Conglomerate



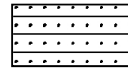
Conglomeratic sandstone



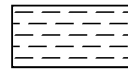
Sandstone



Siltstone



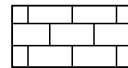
Laminite



Mudstone, claystone, shale

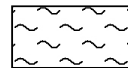


Coal

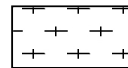


Limestone

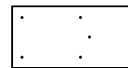
Metamorphic Rocks



Slate, phyllite, schist

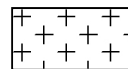


Gneiss

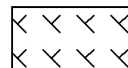


Quartzite

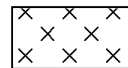
Igneous Rocks



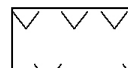
Granite



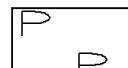
Dolerite, basalt, andesite



Dacite, epidote



Tuff, breccia



Porphyry

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 23.1 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type
23	0.05	ASPHALTIC CONCRETE																F			10/100mm refusal
	0.3	FILLING - grey sandy gravel (roadbase) filling																F			
	0.4	FILLING - brown mottled grey, silty clay filling with some gravel, damp																*F			
1		SHALE - extremely low strength, extremely weathered, grey and brown shale																S			
2	2.47	LAMINITE - very low strength, highly weathered, fractured, grey and brown laminite with some low to medium strength bands and some interbedded medium strength bands																			PL(A) = 0.65
3	3.0	LAMINITE - medium strength, moderately weathered, fractured and slightly fractured, grey laminite with sandstone bands and some extremely low strength bands																C	100	38	PL(A) = 0.54
4																					PL(A) = 1.28
5																					PL(A) = 0.91
6	5.78	LAMINITE - medium and high strength, moderately to slightly weathered, fractured to slightly fractured, laminite with sandstone bands																C	98	73	PL(A) = 3.09
7		6.25-6.8m: high to very high strength sandstone																			PL(A) = 0.58
8																		C	100	55	PL(A) = 0.54
9																					PL(A) = 1.14
	9.54	SANDSTONE - description next page																C	100	100	

RIG: Hanjin D & B **DRILLER:** BG Drilling **LOGGED:** JS **CASING:** HQ to 2.5m
TYPE OF BORING: Solid flight auger (TC-bit) to 2.5m, NMLC Coring to 2.5m
WATER OBSERVATIONS: No free groundwater observed whilst augering. Groundwater measured in well at 4.8m on 1/9/16
REMARKS: *BD1 taken at 0.5m - 0.6m. Standpipe piezometer installed to 11.7m (slotted 2.7-11.7m; bentonite 0.3-0.8m, gatic cover at ground level)

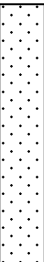
SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 23.1 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
13		SANDSTONE - high strength to very high strength, fresh, slightly fractured to unbroken, light grey, fine to medium grained sandstone (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		</

RIG: Hanjin D & B **DRILLER:** BG Drilling **LOGGED:** JS **CASING:** HQ to 2.5m
TYPE OF BORING: Solid flight auger (TC-bit) to 2.5m, NMLC Coring to 2.5m
WATER OBSERVATIONS: No free groundwater observed whilst augering. Groundwater measured in well at 4.8m on 1/9/16
REMARKS: *BD1 taken at 0.5m - 0.6m. Standpipe piezometer installed to 11.7m (slotted 2.7-11.7m; bentonite 0.3-0.8m, gatic cover at ground level)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 23.6 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 2
PROJECT No: 85594.00
DATE: 16/8/2016
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
23 1 22 2 21 3 20 4 19 5 18 6 17 7 16 8 15 9 14	0.3	FILLING - grey and brown sandy gravel filling with some silty clay, damp SILTY CLAY - stiff to very stiff, brown mottled grey silty clay																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

RIG: Hanjin D & B **DRILLER:** BG Drilling **LOGGED:** JS **CASING:** HQ to 2.6m
TYPE OF BORING: Solid flight auger (TC-bit) to 2.62m, NMLC coring to 2.62-14.03m
WATER OBSERVATIONS: No free groundwater observed whilst augering. Groundwater measured in well at 6.7m on 1/9/16
REMARKS: Standpipe piezometer installed - slotted 1.1 - 14.1m, bentonite plug 0.5-1.0m

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 23.6 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 2
PROJECT No: 85594.00
DATE: 16/8/2016
SHEET 2 OF 2

[illegible]

RIG: Hanjin D & B **DRILLER:** BG Drilling **LOGGED:** JS **CASING:** HQ to 2.6m
TYPE OF BORING: Solid flight auger (TC-bit) to 2.62m, NMLC coring to 2.62-14.03m
WATER OBSERVATIONS: No free groundwater observed whilst augering. Groundwater measured in well at 6.7m on 1/9/16
REMARKS: Standpipe piezometer installed - slotted 1.1 - 14.1m, bentonite plug 0.5-1.0m

SAMPLING & IN SITU TESTING LEGEND

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U _r	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W _s	Water seep
E	Environmental sample	W _l	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 3
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 1 OF 1

[illegible]

RIG: Haniin D & B

DRILLER: BG Drilling

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Solid flight auger to 1.1m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
	0.03	ASPHALTIC CONCRETE		E	0.03							
	0.1	FILLING - grey sandy gravel (roadbase) filling		E	0.08							
		FILLING - grey sandy gravel filling with some igneous rock cobbles and a trace of glass (apparently well compacted), humid			0.1							
	0.35	Bore discontinued at 0.35m - hand auger refusal in filling			0.2							
	1											
	2											
	3											
	4											

RIG: Hand tools

DRILLER: JS

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Hand auger to 0.35m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
	0.03	ASPHALTIC CONCRETE		E	0.03					
	0.1	FILLING - grey sandy gravel (roadbase) filling		E	0.1					
	0.15				0.15					
	0.2	FILLING - grey and brown silty clay and gravel filling (apparently well compacted)		E	0.2					
	0.25	FILLING - grey shale filling (apparently well compacted)			0.25					
		Bore discontinued at 0.25m - hand auger refusal in filling								
1										
2										
3										
4										

RIG: Hand tools

DRILLER: JS

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Hand auger to 0.25m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 6
PROJECT No: 85594.00
DATE: 15/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)
				Type	Depth	Sample	Results & Comments		
	0.04	ASPHALTIC CONCRETE							
		FILLING - grey sandy gravel (roadbase) filling (apparently well compacted)		E	0.1				
	0.3	FILLING - brown silty clay filling with some gravel and a trace of brick fragments		E*	0.2				
					0.5				
					0.6				
	1.0	Bore discontinued at 1.0m - hand auger refusal in filling							

RIG: Hand tools

DRILLER: JS

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Hand auger to 1.0m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *BD2 taken at 0.5m to 0.6m

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 7
PROJECT No: 85594.00
DATE: 16/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
	0.2	CONCRETE										
	0.3	FILLING - grey shale gravel and silty clay filling with some shale cobbles		F	0.2							
	0.4	SILTY CLAY - stiff to very stiff, brown and grey silty clay		E*	0.3							
	0.5				0.4							
	0.7	Bore discontinued at 0.7m - hand auger discontinued on extremely low strength shale, target depth reached			0.5							
1												
2												
3												
4												

RIG: Hand tools

DRILLER: JS

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Diacore 0.0-0.2m; Hand auger 0.2-0.7m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *BD3 taken at 0.4m to 0.5m

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 8
PROJECT No: 85594.00
DATE: 16/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
	0.1	CONCRETE								
		FILLING - brown silty clay filling with some gravel and a trace of brick fragments, damp		E	0.2					
					0.3					
	0.4	SILTY CLAY - stiff, brown silty clay with a trace of gravel (apparently high plasticity)		E	0.5					
					0.6					
	0.7	Bore discontinued at 0.7m - target depth reached								
1										
2										
3										
4										

RIG: Hand tools

DRILLER: JS

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Diacore 0.0-0.1m; Hand auger 0.1-0.7m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multistorey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: --
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 85594.00
DATE: 16/8/2016
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
	0.2	FILLING - brown sandy gravel filling with some concrete rubble		E	0.1					
	0.2	CONCRETE			0.2					
	0.35	FILLING - brown clayey sand filling with some gravel and a trace of brick fragments		E	0.5					
	0.6				0.6					
	0.8	SILTY CLAY - stiff, grey mottled red-brown and brown, silty clay with some ironstone gravel			1.0					
	1			S			6.7.6 N = 13			
	1.45				1.45					
	2									
	2.5	SHALE - extremely low strength, extremely weathered, brown shale								
	3									
	3.5	Bore discontinued at 3.5m - target depth reached								
	4									

RIG: Hanjin D & B

DRILLER: BG Drilling

LOGGED: JS

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 3.5m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 25.2 AHD
EASTING: 308119
NORTHING: 6244165
DIP/AZIMUTH: 90°/--

BORE No: BH201
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
25		CONCRETE SLAB								
	0.18	FILL - orange-brown silty sand fill with some gravel and trace of brick, glass and potential clinker		A	0.2		PID=3ppm			
					0.25					
	0.3	FILL - orange-brown sandy clay fill								
				A	0.4		PID=5ppm			
					0.5					
	0.5	CLAY - stiff, red clay								
				A	0.7		PID=4ppm			
					0.8					
		0.9m: turning yellow								
1				A	1.0		PID=4ppm			
	1.1	Bore discontinued at 1.1m - target depth reached			1.1					
24										

RIG: 3.5 tonne excavator

DRILLER: A+A

LOGGED: NW

CASING: none

TYPE OF BORING: Diacore 0-0.18m; Solid Flight Auger 0.18-1.1m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56. BD3/20190326 taken at 0.7-0.8m

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U ₁	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W ₁	Water seep
E	Environmental sample	W ₂	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 25.1 AHD
EASTING: 308131
NORTHING: 6244163
DIP/AZIMUTH: 90°/--

BORE No: BH202
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
25		CONCRETE SLAB								
	0.18	FILL - brown-red sand filling with some clay and fine-coarse gravel		A	0.2		PID<1ppm			
					0.3					
				A	0.4		PID=2ppm			
					0.5					
	0.6	SANDY CLAY - stiff, red-yellow sandy clay								
				A	0.7		PID<1ppm			
					0.8					
1										
24										
				A	1.1		PID<1ppm			
	1.2	Bore discontinued at 1.2m - target depth reached			1.2					

RIG: 3.5 tonne excavator

DRILLER: A+A

LOGGED: NW

CASING: none

TYPE OF BORING: Diacore 0-0.18m; Solid Flight Auger 0.18-1.2m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Location coordinates are in MGA94 Zone 56.

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 24.1 AHD
EASTING: 308108
NORTHING: 6244196

PIT No: TP101
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
24.1	0.0	FILL - brown gravelly sand fill with a trace of rootlets, bricks and tile fragments, damp		D	0.0		PID=2ppm					
	0.1				0.1							
	0.2	FILL - dark brown-dark grey clayey sand fill with some gravel and red sand, damp		D	0.2		PID<1ppm					
	0.25	CLAY - stiff, red-orange clay, damp			0.26							
				D	0.3		PID<1ppm					
					0.4							
		0.7m: becoming grey										
				D	0.8		PID<1ppm					
	0.9	Pit discontinued at 0.9m - target depth reached			0.9							

RIG: 3.5 tonne excavator with 500mm bucket

LOGGED: NW

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: BD1/20190326 taken at 0.8-0.9m

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	sp	Standard penetration test
E	Environmental sample	W	Water level	S	Shear vane (kPa)

TEST PIT LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 24.4 AHD
EASTING: 308106
NORTHING: 6244185

PIT No: TP102
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
24		FILL - dark brown fine-coarse gravelly sand fill with a trace of rootlets, tile, brick, concrete fragments and possible clinker/charcoal, damp		D	0.0		PID<1ppm					
					0.1							
	0.4	FILL - dark grey sandy fine-medium gravel fill		D	0.4		PID<1ppm					
					0.5							
	0.6	CLAY - stiff, grey mottled orange clay		D	0.6		PID=1ppm					
					0.7							
23												
	1.1	Pit discontinued at 1.1m - target depth reached		D	1.1		PID<1ppm					

RIG: 3.5 tonne excavator with 500mm bucket

LOGGED: NW

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: BD2/20190326 taken at 1.0-1.1m

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	sp	Standard penetration test
E	Environmental sample	W	Water level	S	Shear vane (kPa)

TEST PIT LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 25.3 AHD
EASTING: 308107
NORTHING: 6244174

PIT No: TP103
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
25	0.4	FILL - brown gravelly sand fill with a trace of rootlets, brick, clinker/charcoal, tile, plastic, terracota fragments, wood and orange-grey clay 0.4m: fragments of bonded asbestos-containing material encountered		D	0.0		PID<1ppm					
					0.1							
				D	0.3		PID<1ppm					
		Pit discontinued at 0.4m - test pit discontinued due to potential asbestos-containing material			0.4							
1												
24												

RIG: 3.5 tonne excavator with 500mm bucket

LOGGED: NW

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

- ☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	sp	Standard penetration test
E	Environmental sample	≡	Water level	S	Shear vane (kPa)
				V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 25.5 AHD
EASTING: 308106
NORTHING: 6244172

PIT No: TP104
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILL - brown gravelly sand fill with red-grey clay and trace of rootlets, tile, brick and terracotta fragments		D	0.0		PID<1ppm					
					0.2							
	0.4	FILL - brown sand fill with clay, gravel, charcoal, rootlets, glass, seashells, tile, bricks and plastic fragments		D	0.4		PID<1ppm					
		0.5m: fragments of bonded asbestos-containing material encountered		D	0.5							
				D	0.6							
	0.7	Pit discontinued at 0.7m - test pit discontinued due to potential asbestos-containing material being encountered			0.7							
	1											
	2											
	3											
	4											
	5											
	6											
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	49											
	50											

RIG: 3.5 tonne excavator with 500mm bucket

LOGGED: NW

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: 0.4m: partial concrete slab at northern end of pit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Built Development Group Pty Ltd
PROJECT: Liverpool Civic Place - Multi Storey Development
LOCATION: 52 Scott Street, Liverpool

SURFACE LEVEL: 25.5 AHD
EASTING: 308110
NORTHING: 6244166

PIT No: TP105
PROJECT No: 85594.02
DATE: 26/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILL - brown fine-coarse gravelly sand fill with a trace of clay, plastic, glass, tile, brick and rootlets		D	0.0		PID<1ppm					
					0.1							
	0.25	Pit discontinued at 0.25m - test pit discontinued - refusal on concrete slab										
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
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	49											
	50											

RIG: 3.5 tonne excavator with 500mm bucket

LOGGED: NW

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

- ☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	sp	Standard penetration test
E	Environmental sample	W	Water level	S	Shear vane (kPa)

Appendix F

Sample Receipt Advices

Chain of Custodies

Laboratory Reports

Douglas Partners
Geotechnics | Environment | Groundwater

Client: Douglas Partners		Project Number 85594		To: Envirolab Services									
Contact Person: David Holden		Project Name: Liverpool		Contact Person: Aileen Hie									
Project Mgr: David Holden		PO No.:		Address: 12 Ashley Street									
		lab Quote No.:		Chatswood NSW 2068									
Address: 96 Hermitage Road West Ryde NSW 2114		Date results required: STANDARD		Phone: 02 9910 6200									
		Note: Inform lab in advance if urgent turnaround is required - surcharges apply		Fax: 02 9910 6201									
Phone: 9809 0666 Mob: 0412 985 938		Report format: Esdat/PDF / Excel		Email: ahie@envirolab.com.au									
Email: David.Holden@douglaspartners.com.au		Comments:		Laboratory Report No:									
				Lab Comments:									
Sample Information													
Lab Sample ID	Field Sample ID	Depth	Date sampled	Container Type	Type of sample	COMBO 8A	COMBO 3A	COMBO 3	PFAS (extended suite)	metals	TRH/BTEX	Tests Required	Comments
1	1	0.1-0.2	15/08/2016	jar	soil	x							Provide as much information about the sample as you can
2	1	0.5-0.6	15/08/2016	jar	soil			x					
3	3	0.5-0.6	15/08/2016	jar	soil		x						
4	4	0.1-0.2	15/08/2016	jar	soil	x							
5	5	0.03-0.1	15/08/2016	jar	soil	x							
6	6	0.5-0.6	16/08/2016	jar	soil	x							
7	7	0.2-0.3	16/08/2016	jar	soil	x			x				Envirolab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200
8	8	0.2-0.3	16/08/2016	jar	soil	x		x					
9	8	0.5-0.6	16/08/2016	jar	soil			x					
10	BD1		15/08/2016	jar	soil					x	x		Date Received: 15/08/13
11	BD3		16/08/2016	jar	soil					x	x		Time Received: 1700
12	Trip Spike		16/08/2016	jar	soil								Received by: PH
13	Trip Blank		16/08/2016	jar	soil								Temp: Cool/Ambient
14				jar	soil								Cooling: Ice/Coolpack
													Security: Intact/Broken/None
Relinquished by: Douglas Partners										Sample Receipt			
Courier (by whom)										Received by (Company): ELS			
Condition of Sample at dispatch Cool or Ambient (circle)										Print Name: PH			
Temperature (if Applicable):										Date & Time: 18/8 1700			
Print Name: David Holden										Signature: [Signature]			
Date & Time: 9/11/2015 18/8/16 2:00pm													
Signature: [Signature]													



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152071

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Holden

Sample log in details:

Your Reference:	85594, Liverpool
No. of samples:	14 soils
Date samples received / completed instructions received	18/08/16 / 18/08/16

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: / Issue Date:	25/08/16 / 24/08/16
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152071
Revision No: R 00

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-2 1	152071-3 3	152071-4 4	152071-5 5
Depth	-----	0.1-0.2	0.5-0.6	0.5-0.6	0.1-0.2	0.03-0.1
Date Sampled		15/08/2016	15/08/2016	15/08/2016	15/08/2016	15/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	94	103	103	101

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference	UNITS ----- -	152071-6 6	152071-7 7	152071-8 7	152071-9 8	152071-10 8
Depth	-----	0.5-0.6	0.2-0.3	0.4-0.5	0.2-0.3	0.5-0.6
Date Sampled		16/08/2016	16/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	102	92	106	97

vTRH(C6-C10)/BTEXN in Soil					
Our Reference:	UNITS	152071-11	152071-12	152071-13	152071-14
Your Reference	-----	BD1	BD3	Trip Spike	Trip Blank
Depth	-	-	-	-	-
Date Sampled	-----	16/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016
TRHC ₆ - C ₉	mg/kg	<25	<25	[NA]	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	[NA]	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	[NA]	<25
Benzene	mg/kg	<0.2	<0.2	89%	<0.2
Toluene	mg/kg	<0.5	<0.5	94%	<0.5
Ethylbenzene	mg/kg	<1	<1	98%	<1
m+p-xylene	mg/kg	<2	<2	98%	<2
o-Xylene	mg/kg	<1	<1	99%	<1
naphthalene	mg/kg	<1	<1	[NA]	<1
Surrogate aaa-Trifluorotoluene	%	105	99	94	104

svTRH (C10-C40) in Soil Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-2 1	152071-3 3	152071-4 4	152071-5 5
Depth Date Sampled Type of sample	----- ----- -----	0.1-0.2 15/08/2016 Soil	0.5-0.6 15/08/2016 Soil	0.5-0.6 15/08/2016 Soil	0.1-0.2 15/08/2016 Soil	0.03-0.1 15/08/2016 Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	89	91	89	80	83

svTRH (C10-C40) in Soil Our Reference: Your Reference	UNITS ----- -	152071-6 6	152071-7 7	152071-8 7	152071-9 8	152071-10 8
Depth Date Sampled Type of sample	----- ----- -----	0.5-0.6 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil	0.4-0.5 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil	0.5-0.6 16/08/2016 Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	89	85	86	78	89

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	152071-11	152071-12
Your Reference	-----	BD1	BD3
	-		
Depth	-----	-	-
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date extracted	-	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100
Surrogate o-Terphenyl	%	89	77

PAHs in Soil Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-2 1	152071-3 3	152071-4 4	152071-5 5
Depth	-----	0.1-0.2	0.5-0.6	0.5-0.6	0.1-0.2	0.03-0.1
Date Sampled		15/08/2016	15/08/2016	15/08/2016	15/08/2016	15/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
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	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL(+)VE	0.13	NIL(+)VE	NIL(+)VE	NIL(+)VE
Surrogate p-Terphenyl-d14	%	108	118	111	110	112

PAHs in Soil Our Reference: Your Reference	UNITS ----- -	152071-6 6	152071-7 7	152071-8 7	152071-9 8	152071-10 8
Depth	-----	0.5-0.6	0.2-0.3	0.4-0.5	0.2-0.3	0.5-0.6
Date Sampled		16/08/2016	16/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.2	<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	0.3	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.6	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.7	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.8	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.4	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	4.3	NIL(+)VE	NIL(+)VE	NIL(+)VE	NIL(+)VE
Surrogate p-Terphenyl-d14	%	107	112	109	115	112

Organochlorine Pesticides in soil	UNITS	152071-1	152071-4	152071-6	152071-7	152071-9
Our Reference:	-----	1	4	6	7	8
Your Reference	-					
Depth	-----	0.1-0.2	0.1-0.2	0.5-0.6	0.2-0.3	0.2-0.3
Date Sampled		15/08/2016	15/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
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 TCMX	%	113	97	92	98	98

Organophosphorus Pesticides						
Our Reference:	UNITS	152071-1	152071-4	152071-6	152071-7	152071-9
Your Reference	-----	1	4	6	7	8
	-					
Depth	-----	0.1-0.2	0.1-0.2	0.5-0.6	0.2-0.3	0.2-0.3
Date Sampled		15/08/2016	15/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Azinphos-methyl (Guthion)	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
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	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
Ethion	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
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	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
Surrogate TCMX	%	113	97	92	98	98

PCBs in Soil						
Our Reference:	UNITS	152071-1	152071-4	152071-6	152071-7	152071-9
Your Reference	-----	1	4	6	7	8
	-					
Depth	-----	0.1-0.2	0.1-0.2	0.5-0.6	0.2-0.3	0.2-0.3
Date Sampled		15/08/2016	15/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	113	97	92	98	98

Acid Extractable metals in soil						
Our Reference:	UNITS	152071-1	152071-2	152071-3	152071-4	152071-5
Your Reference	-----	1	1	3	4	5
	-					
Depth	-----	0.1-0.2	0.5-0.6	0.5-0.6	0.1-0.2	0.03-0.1
Date Sampled		15/08/2016	15/08/2016	15/08/2016	15/08/2016	15/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Arsenic	mg/kg	<4	5	6	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	7	18	13	5
Copper	mg/kg	37	40	33	31	59
Lead	mg/kg	2	18	30	21	2
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	43	13	19	18	39
Zinc	mg/kg	19	67	86	59	31

Acid Extractable metals in soil						
Our Reference:	UNITS	152071-6	152071-7	152071-8	152071-9	152071-10
Your Reference	-----	6	7	7	8	8
	-					
Depth	-----	0.5-0.6	0.2-0.3	0.4-0.5	0.2-0.3	0.5-0.6
Date Sampled		16/08/2016	16/08/2016	16/08/2016	16/08/2016	16/08/2016
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Arsenic	mg/kg	11	6	5	10	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	13	4	13	21
Copper	mg/kg	29	32	11	17	23
Lead	mg/kg	150	56	4	14	11
Mercury	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	14	3	7	11
Zinc	mg/kg	300	80	18	25	41

Acid Extractable metals in soil				
Our Reference:	UNITS	152071-11	152071-12	152071-15
Your Reference	-----	BD1	BD3	1-[TRIPLICATE]
Depth	-	-	-	0.1-0.2
Date Sampled	-----	16/08/2016	16/08/2016	15/08/2016
Type of sample		Soil	Soil	Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016
Arsenic	mg/kg	5	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	7	4	4
Copper	mg/kg	42	9	49
Lead	mg/kg	18	4	4
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	15	3	38
Zinc	mg/kg	83	16	31

Moisture Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-2 1	152071-3 3	152071-4 4	152071-5 5
Depth Date Sampled Type of sample	----- ----- -----	0.1-0.2 15/08/2016 Soil	0.5-0.6 15/08/2016 Soil	0.5-0.6 15/08/2016 Soil	0.1-0.2 15/08/2016 Soil	0.03-0.1 15/08/2016 Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	22/08/2016	22/08/2016	22/08/2016	22/08/2016	22/08/2016
Moisture	%	5.8	5.3	14	7.4	6.1

Moisture Our Reference: Your Reference	UNITS ----- -	152071-6 6	152071-7 7	152071-8 7	152071-9 8	152071-10 8
Depth Date Sampled Type of sample	----- ----- -----	0.5-0.6 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil	0.4-0.5 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil	0.5-0.6 16/08/2016 Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	22/08/2016	22/08/2016	22/08/2016	22/08/2016	22/08/2016
Moisture	%	16	11	17	20	24

Moisture Our Reference: Your Reference	UNITS ----- -	152071-11 BD1	152071-12 BD3
Depth Date Sampled Type of sample	----- ----- -----	- 16/08/2016 Soil	- 16/08/2016 Soil
Date prepared	-	19/08/2016	19/08/2016
Date analysed	-	22/08/2016	22/08/2016
Moisture	%	6.6	16

Asbestos ID - soils Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-3 3	152071-4 4	152071-5 5	152071-6 6
Depth Date Sampled Type of sample	----- ----- -----	0.1-0.2 15/08/2016 Soil	0.5-0.6 15/08/2016 Soil	0.1-0.2 15/08/2016 Soil	0.03-0.1 15/08/2016 Soil	0.5-0.6 16/08/2016 Soil
Date analysed	-	23/08/2016	23/08/2016	23/08/2016	23/08/2016	23/08/2016
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 40g	Approx. 45g	Approx. 30g
Sample Description	-	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils Our Reference: Your Reference	UNITS ----- -	152071-7 7	152071-9 8
Depth Date Sampled Type of sample	----- ----- -----	0.2-0.3 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil
Date analysed	-	23/08/2016	23/08/2016
Sample mass tested	g	Approx. 40g	Approx. 40g
Sample Description	-	Beige coarse-grained soil & rocks	Beige coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected

Misc Soil - Inorg Our Reference: Your Reference	UNITS ----- -	152071-1 1	152071-4 4	152071-6 6	152071-7 7	152071-9 8
Depth Date Sampled Type of sample	----- ----- -----	0.1-0.2 15/08/2016 Soil	0.1-0.2 15/08/2016 Soil	0.5-0.6 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil	0.2-0.3 16/08/2016 Soil
Date prepared	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Perfluoroalkylated Substances in Soils		
Our Reference:	UNITS	152071-7
Your Reference	-----	7
	-	
Depth	-----	0.2-0.3
Date Sampled		16/08/2016
Type of sample		Soil
Date prepared	-	19/08/2016
Date analysed	-	19/08/2016
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid	µg/kg	<0.1
PFOS		
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.1
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon - amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
Surrogate ¹³ C ₄ PFOS	%	80

Method ID	Methodology Summary
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Org-035	Soil samples are extracted with Methanol, evaporated and reconstituted. Waters are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	152071-1	<25 <25	LCS-3	89%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	152071-1	<25 <25	LCS-3	89%
Benzene	mg/kg	0.2	Org-016	<0.2	152071-1	<0.2 <0.2	LCS-3	83%
Toluene	mg/kg	0.5	Org-016	<0.5	152071-1	<0.5 <0.5	LCS-3	90%
Ethylbenzene	mg/kg	1	Org-016	<1	152071-1	<1 <1	LCS-3	92%
m+p-xylene	mg/kg	2	Org-016	<2	152071-1	<2 <2	LCS-3	90%
o-Xylene	mg/kg	1	Org-016	<1	152071-1	<1 <1	LCS-3	88%
naphthalene	mg/kg	1	Org-014	<1	152071-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	104	152071-1	103 115 RPD: 11	LCS-3	109%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	152071-1	<50 <50	LCS-3	107%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	152071-1	<100 <100	LCS-3	104%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	152071-1	<100 <100	LCS-3	119%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	152071-1	<50 <50	LCS-3	107%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	152071-1	<100 <100	LCS-3	104%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	152071-1	<100 <100	LCS-3	119%
Surrogate o-Terphenyl	%		Org-003	98	152071-1	89 87 RPD: 2	LCS-3	95%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Naphthalene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	LCS-3	102%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	LCS-3	108%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	LCS-3	114%
Anthracene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	LCS-3	111%
Pyrene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	LCS-3	110%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	152071-1	<0.2 <0.2	[NR]	[NR]

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	152071-1	<0.05 <0.05	LCS-3	113%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	115	152071-1	108 119 RPD: 10	LCS-3	106%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
HCB	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	108%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	109%
Heptachlor	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	109%
delta-BHC	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	113%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	113%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	113%
Dieldrin	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	115%
Endrin	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	118%
pp-DDD	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	110%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	LCS-3	99%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	102	152071-1	113 100 RPD: 12	LCS-3	117%

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	87%
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	117%
Dimethoate	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	89%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	108%
Malathion	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	88%
Parathion	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	110%
Ronnel	mg/kg	0.1	Org-008	<0.1	152071-1	<0.1 <0.1	LCS-3	94%
Surrogate TCMX	%		Org-008	102	152071-1	113 100 RPD: 12	LCS-3	99%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	LCS-3	128%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	152071-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	102	152071-1	113 100 RPD: 12	LCS-3	99%

Client Reference: 85594, Liverpool

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date prepared	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016	LCS-3	19/08/2016
Arsenic	mg/kg	4	Metals-020	<4	152071-1	<4 <4	LCS-3	103%
Cadmium	mg/kg	0.4	Metals-020	<0.4	152071-1	<0.4 <0.4	LCS-3	101%
Chromium	mg/kg	1	Metals-020	<1	152071-1	6 4 RPD: 40	LCS-3	103%
Copper	mg/kg	1	Metals-020	<1	152071-1	37 50 RPD: 30	LCS-3	102%
Lead	mg/kg	1	Metals-020	<1	152071-1	2 5 RPD: 86	LCS-3	97%
Mercury	mg/kg	0.1	Metals-021	<0.1	152071-1	<0.1 <0.1	LCS-3	90%
Nickel	mg/kg	1	Metals-020	<1	152071-1	43 39 RPD: 10	LCS-3	97%
Zinc	mg/kg	1	Metals-020	<1	152071-1	19 34 RPD: 57	LCS-3	97%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results		
Misc Soil - Inorg						Base II Duplicate II %RPD		
Date prepared	-			19/08/2016	152071-1	19/08/2016 19/08/2016		
Date analysed	-			19/08/2016	152071-1	19/08/2016 19/08/2016		
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	152071-1	<5 <5		
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Perfluoroalkylated Substances in Soils								
Date prepared	-			19/08/2016				
Date analysed	-			19/08/2016				
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1				
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-035	<0.2				
Perfluorobutanoic acid	µg/kg	0.2	Org-035	<0.2				
Perfluorohexanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluoroheptanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1				
Perfluorononanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorodecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluoroundecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluorododecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluorotridecanoic acid	µg/kg	0.5	Org-035	<0.5				

QUALITYCONTROL Perfluoroalkylated Substances in Soils	UNITS	PQL	METHOD	Blank
Perfluorotetradecanoic acid	µg/kg	5	Org-035	<5
4:2 FTS	µg/kg	0.1	Org-035	<0.1
6:2 FTS	µg/kg	0.1	Org-035	<0.1
8:2 FTS	µg/kg	0.1	Org-035	<0.1
Perfluorooctane sulfonamide	µg/kg	1	Org-035	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-035	<1
N-Ethyl perfluorooctanesulfon - amide	µg/kg	1	Org-035	<1
N-Me perfluorooctanesulfonam id -oethanol	µg/kg	1	Org-035	<1
N-Et perfluorooctanesulfonam id -oethanol	µg/kg	5	Org-035	<5
Surrogate ¹³ C ₄ PFOS	%		Org-035	111
QUALITYCONTROL vTRH(C6-C10)/BTEXNin Soil	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD
Date extracted	-	152071-11		19/08/2016 19/08/2016
Date analysed	-	152071-11		19/08/2016 19/08/2016
TRHC ₆ - C ₉	mg/kg	152071-11		<25 <25
TRHC ₆ - C ₁₀	mg/kg	152071-11		<25 <25
Benzene	mg/kg	152071-11		<0.2 <0.2
Toluene	mg/kg	152071-11		<0.5 <0.5
Ethylbenzene	mg/kg	152071-11		<1 <1
m+p-xylene	mg/kg	152071-11		<2 <2
o-Xylene	mg/kg	152071-11		<1 <1
naphthalene	mg/kg	152071-11		<1 <1
Surrogate aaa- Trifluorotoluene	%	152071-11		105 99 RPD: 6

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD		
Date extracted	-	152071-11	19/08/2016 19/08/2016		
Date analysed	-	152071-11	19/08/2016 19/08/2016		
TRHC ₁₀ - C ₁₄	mg/kg	152071-11	<50 <50		
TRHC ₁₅ - C ₂₈	mg/kg	152071-11	<100 <100		
TRHC ₂₉ - C ₃₆	mg/kg	152071-11	<100 <100		
TRH>C ₁₀ -C ₁₆	mg/kg	152071-11	<50 <50		
TRH>C ₁₆ -C ₃₄	mg/kg	152071-11	<100 <100		
TRH>C ₃₄ -C ₄₀	mg/kg	152071-11	<100 <100		
Surrogate o-Terphenyl	%	152071-11	89 89 RPD: 0		
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD		
Date prepared	-	152071-11	19/08/2016 19/08/2016		
Date analysed	-	152071-11	19/08/2016 19/08/2016		
Arsenic	mg/kg	152071-11	5 4 RPD: 22		
Cadmium	mg/kg	152071-11	<0.4 <0.4		
Chromium	mg/kg	152071-11	7 7 RPD: 0		
Copper	mg/kg	152071-11	42 41 RPD: 2		
Lead	mg/kg	152071-11	18 16 RPD: 12		
Mercury	mg/kg	152071-11	<0.1 <0.1		
Nickel	mg/kg	152071-11	15 14 RPD: 7		
Zinc	mg/kg	152071-11	83 74 RPD: 11		
QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-1	19/08/2016
Date analysed	-	[NT]	[NT]	LCS-1	19/08/2016
Total Phenolics (as Phenol)	mg/kg	[NT]	[NT]	LCS-1	100%
QUALITY CONTROL Perfluoroalkylated Substances in Soils	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-1	19/08/2016
Date analysed	-	[NT]	[NT]	LCS-1	19/08/2016
Perfluorobutanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	87%
Perfluorohexanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	103%
Perfluorooctanesulfonic acid PFOS	µg/kg	[NT]	[NT]	LCS-1	80%
Perfluorodecanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	110%
Perfluorobutanoic acid	µg/kg	[NT]	[NT]	LCS-1	86%
Perfluorohexanoic acid	µg/kg	[NT]	[NT]	LCS-1	82%
Perfluoroheptanoic acid	µg/kg	[NT]	[NT]	LCS-1	102%

QUALITY CONTROL Perfluoroalkylated Substances in Soils	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Perfluorooctanoic acid PFOA	µg/kg	[NT]	[NT]	LCS-1	96%
Perfluorononanoic acid	µg/kg	[NT]	[NT]	LCS-1	98%
Perfluorodecanoic acid	µg/kg	[NT]	[NT]	LCS-1	96%
Perfluoroundecanoic acid	µg/kg	[NT]	[NT]	LCS-1	70%
Perfluorododecanoic acid	µg/kg	[NT]	[NT]	LCS-1	86%
Perfluorotridecanoic acid	µg/kg	[NT]	[NT]	LCS-1	84%
Perfluorotetradecanoic acid	µg/kg	[NT]	[NT]	LCS-1	100%
4:2 FTS	µg/kg	[NT]	[NT]	LCS-1	78%
6:2 FTS	µg/kg	[NT]	[NT]	LCS-1	94%
8:2 FTS	µg/kg	[NT]	[NT]	LCS-1	97%
Perfluorooctane sulfonamide	µg/kg	[NT]	[NT]	LCS-1	85%
N-Methyl perfluorooctane sulfonamide	µg/kg	[NT]	[NT]	LCS-1	89%
N-Ethyl perfluorooctanesulfon - amide	µg/kg	[NT]	[NT]	LCS-1	101%
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	[NT]	[NT]	LCS-1	93%
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	[NT]	[NT]	LCS-1	86%
Surrogate ¹³ C ₄ PFOS	%	[NT]	[NT]	LCS-1	103%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
TRHC ₆ - C ₉	mg/kg	[NT]	[NT]	152071-4	104%
TRHC ₆ - C ₁₀	mg/kg	[NT]	[NT]	152071-4	104%
Benzene	mg/kg	[NT]	[NT]	152071-4	92%
Toluene	mg/kg	[NT]	[NT]	152071-4	109%
Ethylbenzene	mg/kg	[NT]	[NT]	152071-4	105%
m+p-xylene	mg/kg	[NT]	[NT]	152071-4	106%
o-Xylene	mg/kg	[NT]	[NT]	152071-4	95%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa- Trifluorotoluene	%	[NT]	[NT]	152071-4	111%

Client Reference: 85594, Liverpool

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	[NT]	[NT]	152071-4	104%
TRHC ₁₅ - C ₂₃	mg/kg	[NT]	[NT]	152071-4	104%
TRHC ₂₉ - C ₃₆	mg/kg	[NT]	[NT]	152071-4	109%
TRH>C ₁₀ -C ₁₆	mg/kg	[NT]	[NT]	152071-4	104%
TRH>C ₁₆ -C ₃₄	mg/kg	[NT]	[NT]	152071-4	104%
TRH>C ₃₄ -C ₄₀	mg/kg	[NT]	[NT]	152071-4	109%
Surrogate o-Terphenyl	%	[NT]	[NT]	152071-4	80%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
Naphthalene	mg/kg	[NT]	[NT]	152071-4	103%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	152071-4	106%
Phenanthrene	mg/kg	[NT]	[NT]	152071-4	110%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	152071-4	100%
Pyrene	mg/kg	[NT]	[NT]	152071-4	107%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(b,j,k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	152071-4	96%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	152071-4	108%

Client Reference: 85594, Liverpool

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	152071-4	105%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	152071-4	107%
Heptachlor	mg/kg	[NT]	[NT]	152071-4	103%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	152071-4	111%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	152071-4	111%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	152071-4	114%
Dieldrin	mg/kg	[NT]	[NT]	152071-4	115%
Endrin	mg/kg	[NT]	[NT]	152071-4	113%
pp-DDD	mg/kg	[NT]	[NT]	152071-4	109%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	152071-4	85%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	152071-4	121%

Client Reference: 85594, Liverpool

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos	mg/kg	[NT]	[NT]	152071-4	82%
Chlorpyrifos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	152071-4	90%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	152071-4	88%
Fenitrothion	mg/kg	[NT]	[NT]	152071-4	97%
Malathion	mg/kg	[NT]	[NT]	152071-4	69%
Parathion	mg/kg	[NT]	[NT]	152071-4	109%
Ronnel	mg/kg	[NT]	[NT]	152071-4	88%
Surrogate TCMX	%	[NT]	[NT]	152071-4	97%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
Aroclor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	[NT]	[NT]	152071-4	133%
Aroclor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	152071-4	97%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
Arsenic	mg/kg	[NT]	[NT]	152071-4	88%
Cadmium	mg/kg	[NT]	[NT]	152071-4	87%
Chromium	mg/kg	[NT]	[NT]	152071-4	90%
Copper	mg/kg	[NT]	[NT]	152071-4	99%
Lead	mg/kg	[NT]	[NT]	152071-4	77%
Mercury	mg/kg	[NT]	[NT]	152071-4	88%
Nickel	mg/kg	[NT]	[NT]	152071-4	84%
Zinc	mg/kg	[NT]	[NT]	152071-4	88%

Client Reference: 85594, Liverpool

QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	152071-4	19/08/2016
Date analysed	-	[NT]	[NT]	152071-4	19/08/2016
Total Phenolics (as Phenol)	mg/kg	[NT]	[NT]	152071-4	100%

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 152071-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 152071-15.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Note: Samples for asbestos testing were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier:	Paul Ching
Asbestos ID was authorised by Approved Signatory:	Paul Ching

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Aileen Hie

From: David Holden <David.Holden@douglaspartners.com.au>
Sent: Wednesday, 24 August 2016 5:58 PM
To: Aileen Hie
Subject: 152071 85594, Liverpool- Additional TCLP Analysis

Hi Aileen,

Could I please get TCLP analysis on the following samples for Liverpool:

152071-6 (6/0.5-0.6)- TCLP for lead
152071-1 (1/0.1-0.2)- TCLP for Nickel

152071-A

Due 3/18

Std turnaround is fine.

Thanks

Dave

David Holden | Environmental Scientist
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
96 Hermitage Road West Ryde NSW 2114 | PO Box 472 West Ryde NSW 1685
P: 02 8878 0652 | F: 02 9809 4095 | M: 0414 768 997 | E: David.Holden@douglaspartners.com.au

This email is confidential. If you are not the intended recipient, please notify us immediately and be aware that any disclosure, copying, distribution or use of the contents of this information is prohibited. Please note that the company does not make any commitment through emails not confirmed by fax or letter.

-----Original Message-----

From: Nancy Zhang [<mailto:NZhang@envirolab.com.au>]
Sent: Wednesday, 24 August 2016 5:49 PM
To: David Holden
Subject: Results for Registration 152071 85594, Liverpool

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
sydney@envirolab.com.au

Regards

Envirolab Services
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152071-A

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Holden

Sample log in details:

Your Reference:	85594, Liverpool
No. of samples:	14 soils
Date samples received / completed instructions received	18/08/16 / 24/08/16

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: / Issue Date:	31/08/16 / 31/08/16
Date of Preliminary Report:	Not Issued

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Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152071-A
Revision No: R 00

Metals in TCLP USEPA 1311			
Our Reference:	UNITS	152071-A-1	152071-A-6
Your Reference	-----	1	6
	-		
Depth	-----	0.1-0.2	0.5-0.6
Date Sampled		15/08/2016	16/08/2016
Type of sample		Soil	Soil
Date extracted	-	30/08/2016	30/08/2016
Date analysed	-	30/08/2016	30/08/2016
pH of soil for fluid# determ.	pH units	9.5	7.3
pH of soil TCLP (after HCl)	pH units	1.5	1.5
Extraction fluid used	-	1	1
pH of final Leachate	pH units	5.0	5.0
Lead in TCLP	mg/L	[NA]	0.2
Nickel in TCLP	mg/L	0.08	[NA]

Method ID	Methodology Summary
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using in house method INORG-004.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in TCLP USEPA1311						Base II Duplicate II %RPD		
Date extracted	-			30/08/2016	[NT]	[NT]	LCS-W1	30/08/2016
Date analysed	-			30/08/2016	[NT]	[NT]	LCS-W1	30/08/2016
Lead in TCLP	mg/L	0.03	Metals-020 ICP-AES	<0.03	[NT]	[NT]	LCS-W1	93%
Nickel in TCLP	mg/L	0.02	Metals-020 ICP-AES	<0.02	[NT]	[NT]	LCS-W1	94%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Douglas Partners
Geotechnics | Environment | Groundwater

Page 1 of 1



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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152072

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Holden

Sample log in details:

Your Reference: **85594, Liverpool**
No. of samples: 2 soils
Date samples received / completed instructions received 18/08/16 / 18/08/16
This report replaces the R00 due to changes in sample ID as client request.

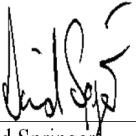
Analysis Details:

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: / Issue Date: 25/08/16 / 24/08/16
Date of Preliminary Report: Not Issued
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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:



David Springer
General Manager

Envirolab Reference: 152072
Revision No: R 01



vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	152072-1	152072-2
Your Reference	-----	2	9
	-		
Depth	-----	0.5-0.6	1-1.45
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date extracted	-	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016
TRHC ₆ - C ₉	mg/kg	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	101

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	152072-1	152072-2
Your Reference	-----	2	9
	-		
Depth	-----	0.5-0.6	1-1.45
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date extracted	-	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100
Surrogate o-Terphenyl	%	80	91

PAHs in Soil Our Reference: Your Reference	UNITS ----- -	152072-1 2	152072-2 9
Depth Date Sampled Type of sample	----- 	0.5-0.6 16/08/2016 Soil	1-1.45 16/08/2016 Soil
Date extracted	-	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	110	112

Acid Extractable metals in soil			
Our Reference:	UNITS	152072-1	152072-2
Your Reference	-----	2	9
	-		
Depth	-----	0.5-0.6	1-1.45
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date prepared	-	19/08/2016	19/08/2016
Date analysed	-	19/08/2016	19/08/2016
Arsenic	mg/kg	13	13
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	22	8
Copper	mg/kg	25	27
Lead	mg/kg	11	15
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	9	6
Zinc	mg/kg	29	44

Moisture			
Our Reference:	UNITS	152072-1	152072-2
Your Reference	-----	2	9
	-		
Depth	-----	0.5-0.6	1-1.45
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date prepared	-	19/08/2016	19/08/2016
Date analysed	-	22/08/2016	22/08/2016
Moisture	%	22	16

Asbestos ID - soils			
Our Reference:	UNITS	152072-1	152072-2
Your Reference	-----	2	9
	-		
Depth	-----	0.5-0.6	1-1.45
Date Sampled		16/08/2016	16/08/2016
Type of sample		Soil	Soil
Date analysed	-	23/08/2016	23/08/2016
Sample mass tested	g	Approx. 35g	Approx. 45g
Sample Description	-	Brwon coarse-grained soil & rocks	Brwon coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
		Organic fibres detected	Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected

Perfluoroalkylated Substances in Soils		
Our Reference:	UNITS	152072-1
Your Reference	-----	2
	-	
Depth	-----	0.5-0.6
Date Sampled		16/08/2016
Type of sample		Soil
Date prepared	-	19/08/2016
Date analysed	-	19/08/2016
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid	µg/kg	<0.1
PFOS		
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.1
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon - amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
Surrogate ¹³ C ₄ PFOS	%	101

Method ID	Methodology Summary
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Org-035	Soil samples are extracted with Methanol, evaporated and reconstituted. Waters are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Date analysed	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	152072-1	<25 <25	LCS-4	100%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	152072-1	<25 <25	LCS-4	100%
Benzene	mg/kg	0.2	Org-016	<0.2	152072-1	<0.2 <0.2	LCS-4	94%
Toluene	mg/kg	0.5	Org-016	<0.5	152072-1	<0.5 <0.5	LCS-4	97%
Ethylbenzene	mg/kg	1	Org-016	<1	152072-1	<1 <1	LCS-4	103%
m+p-xylene	mg/kg	2	Org-016	<2	152072-1	<2 <2	LCS-4	103%
o-Xylene	mg/kg	1	Org-016	<1	152072-1	<1 <1	LCS-4	102%
naphthalene	mg/kg	1	Org-014	<1	152072-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	106	152072-1	96 94 RPD: 2	LCS-4	107%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Date analysed	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	152072-1	<50 <50	LCS-4	97%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	152072-1	<100 <100	LCS-4	94%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	152072-1	<100 <100	LCS-4	119%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	152072-1	<50 <50	LCS-4	97%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	152072-1	<100 <100	LCS-4	94%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	152072-1	<100 <100	LCS-4	119%
Surrogate o-Terphenyl	%		Org-003	88	152072-1	80 69 RPD: 15	LCS-4	90%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Date analysed	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Naphthalene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	LCS-4	101%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	LCS-4	110%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	LCS-4	108%
Anthracene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	LCS-4	109%
Pyrene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	LCS-4	109%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	152072-1	<0.2 <0.2	[NR]	[NR]

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	152072-1	<0.05 <0.05	LCS-4	110%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	152072-1	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	119	152072-1	110 112 RPD: 2	LCS-4	110%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date prepared	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Date analysed	-			19/08/2016	152072-1	19/08/2016 19/08/2016	LCS-4	19/08/2016
Arsenic	mg/kg	4	Metals-020	<4	152072-1	13 13 RPD: 0	LCS-4	109%
Cadmium	mg/kg	0.4	Metals-020	<0.4	152072-1	<0.4 <0.4	LCS-4	105%
Chromium	mg/kg	1	Metals-020	<1	152072-1	22 19 RPD: 15	LCS-4	109%
Copper	mg/kg	1	Metals-020	<1	152072-1	25 24 RPD: 4	LCS-4	107%
Lead	mg/kg	1	Metals-020	<1	152072-1	11 11 RPD: 0	LCS-4	98%
Mercury	mg/kg	0.1	Metals-021	<0.1	152072-1	<0.1 <0.1	LCS-4	95%
Nickel	mg/kg	1	Metals-020	<1	152072-1	9 10 RPD: 11	LCS-4	102%
Zinc	mg/kg	1	Metals-020	<1	152072-1	29 30 RPD: 3	LCS-4	102%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Perfluoroalkylated Substances in Soils								
Date prepared	-			19/08/2016				
Date analysed	-			19/08/2016				
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1				
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-035	<0.2				
Perfluorobutanoic acid	µg/kg	0.2	Org-035	<0.2				
Perfluorohexanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluoroheptanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1				
Perfluorononanoic acid	µg/kg	0.1	Org-035	<0.1				
Perfluorodecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluoroundecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluorododecanoic acid	µg/kg	0.5	Org-035	<0.5				
Perfluorotridecanoic acid	µg/kg	0.5	Org-035	<0.5				

QUALITYCONTROL Perfluoroalkylated Substances in Soils	UNITS	PQL	METHOD	Blank
Perfluorotetradecanoic acid	µg/kg	5	Org-035	<5
4:2 FTS	µg/kg	0.1	Org-035	<0.1
6:2 FTS	µg/kg	0.1	Org-035	<0.1
8:2 FTS	µg/kg	0.1	Org-035	<0.1
Perfluorooctane sulfonamide	µg/kg	1	Org-035	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-035	<1
N-Ethyl perfluorooctanesulfon - amide	µg/kg	1	Org-035	<1
N-Me perfluorooctanesulfonam id -oethanol	µg/kg	1	Org-035	<1
N-Et perfluorooctanesulfonam id -oethanol	µg/kg	5	Org-035	<5
Surrogate ¹³ C ₄ PFOS	%		Org-035	111

QUALITYCONTROL Perfluoroalkylated Substances in Soils	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-1	19/08/2016
Date analysed	-	[NT]	[NT]	LCS-1	19/08/2016
Perfluorobutanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	87%
Perfluorohexanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	103%
Perfluorooctanesulfonic acidPFOS	µg/kg	[NT]	[NT]	LCS-1	80%
Perfluorodecanesulfonic acid	µg/kg	[NT]	[NT]	LCS-1	110%
Perfluorobutanoic acid	µg/kg	[NT]	[NT]	LCS-1	86%
Perfluorohexanoic acid	µg/kg	[NT]	[NT]	LCS-1	82%
Perfluoroheptanoic acid	µg/kg	[NT]	[NT]	LCS-1	102%
Perfluorooctanoic acid PFOA	µg/kg	[NT]	[NT]	LCS-1	96%
Perfluorononanoic acid	µg/kg	[NT]	[NT]	LCS-1	98%
Perfluorodecanoic acid	µg/kg	[NT]	[NT]	LCS-1	96%
Perfluoroundecanoic acid	µg/kg	[NT]	[NT]	LCS-1	70%
Perfluorododecanoic acid	µg/kg	[NT]	[NT]	LCS-1	86%
Perfluorotridecanoic acid	µg/kg	[NT]	[NT]	LCS-1	84%
Perfluorotetradecanoic acid	µg/kg	[NT]	[NT]	LCS-1	100%
4:2 FTS	µg/kg	[NT]	[NT]	LCS-1	78%
6:2 FTS	µg/kg	[NT]	[NT]	LCS-1	94%

Client Reference: 85594, Liverpool

QUALITY CONTROL Perfluoroalkylated Substances in Soils	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
8:2FTS	µg/kg	[NT]	[NT]	LCS-1	97%
Perfluorooctane sulfonamide	µg/kg	[NT]	[NT]	LCS-1	85%
N-Methyl perfluorooctane sulfonamide	µg/kg	[NT]	[NT]	LCS-1	89%
N-Ethyl perfluorooctanesulfon - amide	µg/kg	[NT]	[NT]	LCS-1	101%
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	[NT]	[NT]	LCS-1	93%
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	[NT]	[NT]	LCS-1	86%
Surrogate ¹³ C ₄ PFOS	%	[NT]	[NT]	LCS-1	103%
QUALITY CONTROL vTRH(C6-C10)/BTXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152072-2	19/08/2016
Date analysed	-	[NT]	[NT]	152072-2	19/08/2016
TRHC ₆ - C ₉	mg/kg	[NT]	[NT]	152072-2	92%
TRHC ₆ - C ₁₀	mg/kg	[NT]	[NT]	152072-2	92%
Benzene	mg/kg	[NT]	[NT]	152072-2	86%
Toluene	mg/kg	[NT]	[NT]	152072-2	89%
Ethylbenzene	mg/kg	[NT]	[NT]	152072-2	94%
m+p-xylene	mg/kg	[NT]	[NT]	152072-2	95%
o-Xylene	mg/kg	[NT]	[NT]	152072-2	93%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa- Trifluorotoluene	%	[NT]	[NT]	152072-2	95%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152072-2	19/08/2016
Date analysed	-	[NT]	[NT]	152072-2	19/08/2016
TRHC ₁₀ - C ₁₄	mg/kg	[NT]	[NT]	152072-2	97%
TRHC ₁₅ - C ₂₈	mg/kg	[NT]	[NT]	152072-2	97%
TRHC ₂₉ - C ₃₆	mg/kg	[NT]	[NT]	152072-2	110%
TRH>C ₁₀ -C ₁₆	mg/kg	[NT]	[NT]	152072-2	97%
TRH>C ₁₆ -C ₃₄	mg/kg	[NT]	[NT]	152072-2	97%
TRH>C ₃₄ -C ₄₀	mg/kg	[NT]	[NT]	152072-2	110%
Surrogate o-Terphenyl	%	[NT]	[NT]	152072-2	91%

Client Reference: 85594, Liverpool

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	152072-2	19/08/2016
Date analysed	-	[NT]	[NT]	152072-2	19/08/2016
Naphthalene	mg/kg	[NT]	[NT]	152072-2	108%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	152072-2	110%
Phenanthrene	mg/kg	[NT]	[NT]	152072-2	109%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	152072-2	100%
Pyrene	mg/kg	[NT]	[NT]	152072-2	108%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(b,j,k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	152072-2	101%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	152072-2	110%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	152072-2	19/08/2016
Date analysed	-	[NT]	[NT]	152072-2	19/08/2016
Arsenic	mg/kg	[NT]	[NT]	152072-2	86%
Cadmium	mg/kg	[NT]	[NT]	152072-2	94%
Chromium	mg/kg	[NT]	[NT]	152072-2	103%
Copper	mg/kg	[NT]	[NT]	152072-2	92%
Lead	mg/kg	[NT]	[NT]	152072-2	115%
Mercury	mg/kg	[NT]	[NT]	152072-2	98%
Nickel	mg/kg	[NT]	[NT]	152072-2	93%
Zinc	mg/kg	[NT]	[NT]	152072-2	96%

Report Comments:

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Note: Samples 152072-1 & 2 were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Paul Ching

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Aileen Hie

From: David Holden <David.Holden@douglaspartners.com.au>
Sent: Monday, 29 August 2016 3:12 PM
To: Aileen Hie
Subject: 152072 85594, Liverpool

Hi Aileen,

Could you please run VOC analysis on sample 152072-1 (2/0.5-0.6)

Could I please get that extracted ASAP and put on a 48 hr turnaround.

Thanks

Dave

David Holden | Environmental Scientist
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
96 Hermitage Road West Ryde NSW 2114 | PO Box 472 West Ryde NSW 1685
P: 02 8878 0652 | F: 02 9809 4095 | M: 0414 768 997 | E: David.Holden@douglaspartners.com.au

This email is confidential. If you are not the intended recipient, please notify us immediately and be aware that any disclosure, copying, distribution or use of the contents of this information is prohibited. Please note that the company does not make any commitment through emails not confirmed by fax or letter.

Envirolab Ref: 152072 A
Due: 31/8/16
2 day T/A.

-----Original Message-----

From: Nancy Zhang [<mailto:NZhang@envirolab.com.au>]
Sent: Wednesday, 24 August 2016 5:52 PM
To: David Holden
Subject: Results for Registration 152072 85594, Liverpool

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
sydney@envirolab.com.au

Regards

Envirolab Services
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
www.envirolabservices.com.au



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152072-A

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Holden

Sample log in details:

Your Reference:	85594, Liverpool
No. of samples:	Additional Testing on 1 Soil
Date samples received / completed instructions received	18/08/16 / 29/08/16

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: / Issue Date:	31/08/16 / 31/08/16
Date of Preliminary Report:	Not Issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152072-A
Revision No: R 00

VOCs in soil Our Reference: Your Reference	UNITS ----- -	152072-A-1 2
Depth	-----	0.5-0.6
Date Sampled		16/08/2016
Type of sample		Soil
Date extracted	-	30/08/2016
Date analysed	-	31/08/2016
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1
bromoform	mg/kg	<1
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1

VOCs in soil Our Reference: Your Reference	UNITS ----- -	152072-A-1 2
Depth Date Sampled Type of sample	----- 	0.5-0.6 16/08/2016 Soil
o-Xylene	mg/kg	<1
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
Surrogate Dibromofluorometha	%	107
Surrogate aaa-Trifluorotoluene	%	119
Surrogate Toluene-d8	%	98
Surrogate 4-Bromofluorobenzene	%	101

Method ID	Methodology Summary
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
Date extracted	-			30/08/2016	[NT]	[NT]	LCS-2	30/08/2016
Date analysed	-			31/08/2016	[NT]	[NT]	LCS-2	31/08/2016
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	120%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	120%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	113%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	112%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	101%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	100%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	103%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	109%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	110	[NT]	[NT]	LCS-2	99%
Surrogate aaa-Trifluorotoluene	%		Org-014	104	[NT]	[NT]	LCS-2	101%
Surrogate Toluene-d8	%		Org-014	99	[NT]	[NT]	LCS-2	101%
Surrogate 4-Bromofluorobenzene	%		Org-014	104	[NT]	[NT]	LCS-2	106%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

CHAIN OF CUSTODY

Douglas Partners
Geotechnics | Environment | Groundwater

Client: Douglas Partners Contact Person: Chris Bagia Project Mgr: David Holden		Project Number: 85594 Project Name: Liverpool Civic Place PO No.:		To: EnviroLab Services Contact Person: Aileen Hie Address: 12 Ashley Street Chatswood NSW 2068 Phone: 02 9910 6200 Fax: 02 9910 6201 Email: aileen@envirolab.com.au	
Address: 96 Hermitage Road West Ryde NSW 2114		Lab Quote No.: Standard Date results required: 24h Or choose: 24h Note: Inform lab in advance if urgent turnaround is required - surcharges apply		Laboratory Report No:	
Phone: 9809 0666 Email: Chris Bagia David Holden		Mob: 0417 527 060 @douglaspartners.com.au @douglaspartners.com.au		Lab Comments:	

Sample Information				Tests Required					Comments						
Lab Sample ID	Field Sample ID	Depth	Date sampled	Container Type	Type of sample	Metals	TRH	BTEX	VOC	PAH (Low Level)	Phenols	OCP/PCB (trace)	Hardness	Combo	Provide as much information about the sample as you can
1	BH1	-	19/08/2016	G/P	W	X	X	X	X	X	X	X	X		
2	BD1/190816	-	19/08/2016	G/P	W	X	X	X							
3	Trip Spike						X	X							
4	Trip Blank						X	X							

Relinquished by: Douglas Partners

Hand delivered / Courier (by whom)

Condition of Sample at dispatch Cool or Ambient (circle one)

Temperature (if Applicable):

Print Name: Christopher Bagia

Date & Time: 19/08/16 2:15pm

Signature:

Sample Receipt

Received by (Company): EGS

Print Name: P. Bagia

Date & Time: 19/08/16 17:30

Signature:

Lab use only:

Samples Received: Cool or Ambient (circle one)

Temperature Received at: 16.1 (if applicable)

Transported by: Hand delivered / courier

Page ____ of ____

EnviroLab Services
 12 Ashley St
 Chatswood NSW 2067
 Ph: (02) 9910 6200

Job No: 152150
 Date Received: 19/08/2016
 Time Received: 17:30
 Received by: P. Bagia
 Temp: Cool/Ambient
 Cooling: Ice/Capac
 Security: Intact/Broken/None



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152150

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: Chris Bagia

Sample log in details:

Your Reference:	85594, Liverpool Civic Place
No. of samples:	4 Waters
Date samples received / completed instructions received	19/08/2016 / 19/08/2016

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: / Issue Date:	26/08/16 / 31/08/16
Date of Preliminary Report:	Not Issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152150
Revision No: R 01

VOCs in water Our Reference: Your Reference	UNITS ----- -	152150-1 BH1
Date Sampled Type of sample	----- Water	19/08/2016
Date extracted	-	22/08/2016
Date analysed	-	23/08/2016
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1

VOCs in water		
Our Reference:	UNITS	152150-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	99
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	94

vTRH(C6-C10)/BTEXN in Water					
Our Reference:	UNITS	152150-1	152150-2	152150-3	152150-4
Your Reference	-----	BH1	BD1/190816	Trip Spike	Trip Blank
	-				
Date Sampled	-----	19/08/2016	19/08/2016	19/08/2016	19/08/2016
Type of sample		Water	Water	Water	Water
Date extracted	-	22/08/2016	23/08/2016	23/08/2016	23/08/2016
Date analysed	-	23/08/2016	23/08/2016	23/08/2016	23/08/2016
TRHC ₆ - C ₉	µg/L	<10	<10	[NA]	<10
TRHC ₆ - C ₁₀	µg/L	<10	<10	[NA]	<10
TRHC ₆ - C ₁₀ less BTEX (F1)	µg/L	<10	<10	[NA]	[NA]
Benzene	µg/L	<1	<1	105%	<1
Toluene	µg/L	<1	<1	110%	<1
Ethylbenzene	µg/L	<1	<1	105%	<1
m+p-xylene	µg/L	<2	<2	108%	<2
o-xylene	µg/L	<1	<1	108%	<1
Naphthalene	µg/L	<1	<1	[NA]	[NA]
Surrogate Dibromofluoromethane	%	99	105	100	101
Surrogate toluene-d8	%	97	96	102	96
Surrogate 4-BFB	%	94	108	100	108

svTRH (C10-C40) in Water			
Our Reference:	UNITS	152150-1	152150-2
Your Reference	-----	BH1	BD1/190816
	-		
Date Sampled	-----	19/08/2016	19/08/2016
Type of sample		Water	Water
Date extracted	-	22/08/2016	22/08/2016
Date analysed	-	22/08/2016	23/08/2016
TRHC ₁₀ - C ₁₄	µg/L	<50	<50
TRHC ₁₅ - C ₂₈	µg/L	<100	<100
TRHC ₂₉ - C ₃₆	µg/L	<100	<100
TRH>C ₁₀ - C ₁₆	µg/L	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<50
TRH>C ₁₆ - C ₃₄	µg/L	<100	<100
TRH>C ₃₄ - C ₄₀	µg/L	<100	<100
Surrogate o-Terphenyl	%	90	84

PAHs in Water - Low Level		
Our Reference:	UNITS	152150-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	22/08/2016
Naphthalene	µg/L	<0.2
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	85

OCP in water - Trace level		
Our Reference:	UNITS	152150-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	25/08/2016
Date analysed	-	26/08/2016
HCB	µg/L	<0.001
alpha-BHC	µg/L	<0.001
gamma-BHC	µg/L	<0.001
beta-BHC	µg/L	<0.001
Heptachlor	µg/L	<0.001
delta-BHC	µg/L	<0.001
Aldrin	µg/L	<0.001
Heptachlor Epoxide	µg/L	<0.001
gamma-Chlordane	µg/L	<0.001
alpha-Chlordane	µg/L	<0.001
Endosulfan I	µg/L	<0.002
pp-DDE	µg/L	<0.001
Dieldrin	µg/L	<0.001
Endrin	µg/L	<0.001
pp-DDD	µg/L	<0.001
Endosulfan II	µg/L	<0.002
DDT	µg/L	<0.001
Endosulfan Sulphate	µg/L	<0.001
Methoxychlor	µg/L	<0.001
Mirex	µg/L	<0.002
Surrogate p-Terphenyl-d ₁₄	%	110

PCB in water - trace level Aroclors Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- - -----	152150-1 BH1 19/08/2016 Water
Date prepared	-	25/08/2016
Date analysed	-	27/08/2016
Aroclor 1016	µg/L	<0.01
Aroclor 1221	µg/L	<0.01
Aroclor 1232	µg/L	<0.01
Aroclor 1242	µg/L	<0.01
Aroclor 1248	µg/L	<0.01
Aroclor 1254	µg/L	<0.01
Aroclor 1260	µg/L	<0.01

Total Phenolics in Water		
Our Reference:	UNITS	152150-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	22/08/2016
Total Phenolics (as Phenol)	mg/L	<0.05

HM in water - dissolved			
Our Reference:	UNITS	152150-1	152150-2
Your Reference	-----	BH1	BD1/190816
	-		
Date Sampled	-----	19/08/2016	19/08/2016
Type of sample		Water	Water
Date prepared	-	22/08/2016	22/08/2016
Date analysed	-	22/08/2016	22/08/2016
Arsenic-Dissolved	µg/L	2	2
Cadmium-Dissolved	µg/L	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1
Copper-Dissolved	µg/L	3	3
Lead-Dissolved	µg/L	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05
Nickel-Dissolved	µg/L	3	3
Zinc-Dissolved	µg/L	1	1

Cations in water Dissolved		
Our Reference:	UNITS	152150-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date digested	-	23/08/2016
Date analysed	-	23/08/2016
Calcium - Dissolved	mg/L	8.9
Magnesium - Dissolved	mg/L	14
Hardness	mgCaCO ₃ /L	79

Method ID	Methodology Summary
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-020	Determination of various metals by ICP-AES.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-			23/08/2016	[NT]	[NT]	LCS-W2	23/08/2016
Dichlorodifluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Chloromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Bromomethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Chloroethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	77%
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Chloroform	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	74%
2,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	85%
1,1,1-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	85%
1,1-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Dibromomethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Trichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	88%
Bromodichloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	84%
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	84%
1,2-dibromoethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W2	82%
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromoform	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	µg/L	2	Org-013	<2	[NT]	[NT]	[NR]	[NR]
Styrene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
o-xylene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in water						Base II Duplicate II %RPD		
1,2,3-trichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Tert-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Sec-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate	%		Org-013	94	[NT]	[NT]	LCS-W2	93%
Dibromofluoromethane								
Surrogate toluene-d8	%		Org-013	97	[NT]	[NT]	LCS-W2	115%
Surrogate 4-BFB	%		Org-013	97	[NT]	[NT]	LCS-W2	96%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-			23/08/2016	[NT]	[NT]	LCS-W2	23/08/2016
TRHC ₆ - C ₉	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W2	89%
TRHC ₆ - C ₁₀	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W2	89%
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	88%
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	94%
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	93%
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	LCS-W2	84%
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	85%
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	94	[NT]	[NT]	LCS-W2	93%
Surrogate toluene-d8	%		Org-016	97	[NT]	[NT]	LCS-W2	115%
Surrogate 4-BFB	%		Org-016	97	[NT]	[NT]	LCS-W2	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
TRHC ₁₀ - C ₁₄	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W2	125%
TRHC ₁₅ - C ₂₈	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W2	124%
TRHC ₂₉ - C ₃₆	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W2	118%
TRH>C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W2	125%
TRH>C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W2	124%
TRH>C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W2	118%
Surrogate o-Terphenyl	%		Org-003	82	[NT]	[NT]	LCS-W2	108%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-			22/08/2016	[NT]	[NT]	LCS-W2	22/08/2016
Naphthalene	µg/L	0.2	Org-012	<0.2	[NT]	[NT]	LCS-W2	74%
Acenaphthylene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W2	77%
Phenanthrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W2	82%
Anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W2	77%
Pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W2	76%

Client Reference: 85594, Liverpool Civic Place

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Benzo(a)anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(b,j +k)fluoranthene	µg/L	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W2	75%
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	104	[NT]	[NT]	LCS-W2	72%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
OCP in water - Trace level								
Date extracted	-			25/08/2016				
Date analysed	-			26/08/2016				
HCB	µg/L	0.001	Org-005	<0.001				
alpha-BHC	µg/L	0.001	Org-005	<0.001				
gamma-BHC	µg/L	0.001	Org-005	<0.001				
beta-BHC	µg/L	0.001	Org-005	<0.001				
Heptachlor	µg/L	0.001	Org-005	<0.001				
delta-BHC	µg/L	0.001	Org-005	<0.001				
Aldrin	µg/L	0.001	Org-005	<0.001				
Heptachlor Epoxide	µg/L	0.001	Org-005	<0.001				
gamma-Chlordane	µg/L	0.001	Org-005	<0.001				
alpha-Chlordane	µg/L	0.001	Org-005	<0.001				
Endosulfan I	µg/L	0.002	Org-005	<0.002				
pp-DDE	µg/L	0.001	Org-005	<0.001				
Dieldrin	µg/L	0.001	Org-005	<0.001				
Endrin	µg/L	0.001	Org-005	<0.001				
pp-DDD	µg/L	0.001	Org-005	<0.001				
Endosulfan II	µg/L	0.002	Org-005	<0.002				
DDT	µg/L	0.001	Org-005	<0.001				
Endosulfan Sulphate	µg/L	0.001	Org-005	<0.001				
Methoxychlor	µg/L	0.001	Org-005	<0.001				
Mirex	µg/L	0.002	Org-012	<0.002				
Surrogate p-Terphenyl-d14	%		Org-012	[NT]				

QUALITYCONTROL	UNITS	PQL	METHOD	Blank
PCB in water - trace level Aroclors				
Date prepared	-			25/08/2016
Date analysed	-			27/08/2016
Aroclor 1016	µg/L	0.01	Org-012/017	<0.01
Aroclor 1221	µg/L	0.01	Org-012/017	<0.01
Aroclor 1232	µg/L	0.01	Org-012/017	<0.01
Aroclor 1242	µg/L	0.01	Org-012/017	<0.01
Aroclor 1248	µg/L	0.01	Org-012/017	<0.01
Aroclor 1254	µg/L	0.01	Org-012/017	<0.01
Aroclor 1260	µg/L	0.01	Org-012/017	<0.01

QUALITYCONTROL	UNITS	PQL	METHOD	Blank
Total Phenolics in Water				
Date extracted	-			22/08/2016
Date analysed	-			22/08/2016
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
HM in water - dissolved						Base Duplicate %RPD		
Date prepared	-			22/08/2016	152150-1	22/08/2016 22/08/2016	LCS-W2	22/08/2016
Date analysed	-			22/08/2016	152150-1	22/08/2016 22/08/2016	LCS-W2	22/08/2016
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	2 2 RPD: 0	LCS-W2	98%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	152150-1	<0.1 <0.1	LCS-W2	96%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	<1 <1	LCS-W2	98%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	3 3 RPD: 0	LCS-W2	100%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	<1 <1	LCS-W2	99%
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	152150-1	<0.05 <0.05	LCS-W2	98%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	3 3 RPD: 0	LCS-W2	97%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	152150-1	1 1 RPD: 0	LCS-W2	99%

QUALITYCONTROL Cations in water Dissolved	UNITS	PQL	METHOD	Blank
Date digested	-			23/08/2016
Date analysed	-			23/08/2016
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5
Hardness	mgCaCO ₃ /L	3		<3.0

QUALITYCONTROL OCP in water - Trace level	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	25/08/2016
Date analysed	-	[NT]	[NT]	LCS-W1	26/08/2016
HCB	µg/L	[NT]	[NT]	[NR]	[NR]
alpha-BHC	µg/L	[NT]	[NT]	LCS-W1	115%
gamma-BHC	µg/L	[NT]	[NT]	[NR]	[NR]
beta-BHC	µg/L	[NT]	[NT]	LCS-W1	122%
Heptachlor	µg/L	[NT]	[NT]	LCS-W1	111%
delta-BHC	µg/L	[NT]	[NT]	[NR]	[NR]
Aldrin	µg/L	[NT]	[NT]	LCS-W1	102%
Heptachlor Epoxide	µg/L	[NT]	[NT]	LCS-W1	136%
gamma-Chlordane	µg/L	[NT]	[NT]	[NR]	[NR]
alpha-Chlordane	µg/L	[NT]	[NT]	[NR]	[NR]
Endosulfan I	µg/L	[NT]	[NT]	[NR]	[NR]
pp-DDE	µg/L	[NT]	[NT]	LCS-W1	115%
Dieldrin	µg/L	[NT]	[NT]	LCS-W1	137%
Endrin	µg/L	[NT]	[NT]	LCS-W1	123%
pp-DDD	µg/L	[NT]	[NT]	LCS-W1	120%
Endosulfan II	µg/L	[NT]	[NT]	[NR]	[NR]
DDT	µg/L	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	µg/L	[NT]	[NT]	LCS-W1	124%
Methoxychlor	µg/L	[NT]	[NT]	[NR]	[NR]
Mirex	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate <i>p</i> -Terphenyl- d ₁₄	%	[NT]	[NT]	LCS-W1	114%

Client Reference: 85594, Liverpool Civic Place

QUALITY CONTROL PCB in water - trace level Aroclors	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-W1	25/08/2016
Date analysed	-	[NT]	[NT]	LCS-W1	27/08/2016
Aroclor 1016	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	µg/L	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	µg/L	[NT]	[NT]	LCS-W1	118%
Aroclor 1260	µg/L	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL Total Phenolics in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W1	22/08/2016
Date analysed	-	[NT]	[NT]	LCS-W1	22/08/2016
Total Phenolics (as Phenol)	mg/L	[NT]	[NT]	LCS-W1	102%
QUALITY CONTROL Cations in water Dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	LCS-W1	23/08/2016
Date analysed	-	[NT]	[NT]	LCS-W1	23/08/2016
Calcium - Dissolved	mg/L	[NT]	[NT]	LCS-W1	109%
Magnesium - Dissolved	mg/L	[NT]	[NT]	LCS-W1	108%
Hardness	mgCaCO 3/L	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	152150-2	22/08/2016
Date analysed	-	[NT]	[NT]	152150-2	22/08/2016
Arsenic-Dissolved	µg/L	[NT]	[NT]	152150-2	112%
Cadmium-Dissolved	µg/L	[NT]	[NT]	152150-2	107%
Chromium-Dissolved	µg/L	[NT]	[NT]	152150-2	97%
Copper-Dissolved	µg/L	[NT]	[NT]	152150-2	93%
Lead-Dissolved	µg/L	[NT]	[NT]	152150-2	92%
Mercury-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Nickel-Dissolved	µg/L	[NT]	[NT]	152150-2	92%
Zinc-Dissolved	µg/L	[NT]	[NT]	152150-2	100%

Report Comments:

Dissolved Metals: no preserved sample was received, therefore the unpreserved sample was filtered through 0.45um filter at the lab.
Note: there is a possibility some elements may be underestimated.

OC/PCB analysed by MPL Laboratories. Report No.184791.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Douglas Partners
Geotechnics / Environment / Groundwater

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 152153
Date Received 19.8.2016
Time Received 17.30
Received by: R
Temp Cool/Ambient 16.2
Cooling: Ice/Leakpack
Security: Intact/Broken/None



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152153

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: Chris Bagia

Sample log in details:

Your Reference:	85594, Liverpool Civic Place
No. of samples:	1 waters
Date samples received / completed instructions received	19/08/2016 / 19/08/2016

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: / Issue Date:	2/09/16 / 6/09/16
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152153
Revision No: R 01

VOCs in water Our Reference: Your Reference	UNITS ----- -	152153-1 BH2
Date Sampled Type of sample	----- Water	19/08/2016
Date extracted	-	22/08/2016
Date analysed	-	23/08/2016
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	7
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	2
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1

VOCs in water		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	104
Surrogate toluene-d8	%	94
Surrogate 4-BFB	%	90

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	23/08/2016
TRHC ₆ - C ₉	µg/L	<10
TRHC ₆ - C ₁₀	µg/L	<10
TRHC ₆ - C ₁₀ less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	104
Surrogate toluene-d8	%	94
Surrogate 4-BFB	%	90

svTRH (C10-C40) in Water		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	22/08/2016
TRHC ₁₀ - C ₁₄	µg/L	<50
TRHC ₁₅ - C ₂₈	µg/L	<100
TRHC ₂₉ - C ₃₆	µg/L	<100
TRH>C ₁₀ - C ₁₆	µg/L	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50
TRH>C ₁₆ - C ₃₄	µg/L	<100
TRH>C ₃₄ - C ₄₀	µg/L	<100
Surrogate o-Terphenyl	%	80

PAHs in Water - Low Level		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	22/08/2016
Naphthalene	µg/L	<0.2
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5
Total +ve PAH's	µg/L	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	79

OCP in water - Trace level		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	25/08/2016
Date analysed	-	26/08/16
HCB	µg/L	<0.001
alpha-BHC	µg/L	<0.001
gamma-BHC	µg/L	<0.001
beta-BHC	µg/L	<0.001
Heptachlor	µg/L	<0.001
delta-BHC	µg/L	<0.001
Aldrin	µg/L	<0.001
Heptachlor Epoxide	µg/L	<0.001
gamma-Chlordane	µg/L	<0.001
alpha-Chlordane	µg/L	<0.001
Endosulfan I	µg/L	<0.002
pp-DDE	µg/L	<0.001
Dieldrin	µg/L	<0.001
Endrin	µg/L	<0.001
pp-DDD	µg/L	<0.001
Endosulfan II	µg/L	<0.002
DDT	µg/L	<0.001
Endosulfan Sulphate	µg/L	<0.001
Methoxychlor	µg/L	<0.001
Mirex	µg/L	<0.002
Surrogate p-Terphenyl-d ₁₄	%	120

PCB in water - trace level Aroclors Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- - -----	152153-1 BH2 19/08/2016 Water
Date prepared	-	25/08/2016
Date analysed	-	27/08/2016
Aroclor 1016	µg/L	<0.01
Aroclor 1221	µg/L	<0.01
Aroclor 1232	µg/L	<0.01
Aroclor 1242	µg/L	<0.01
Aroclor 1248	µg/L	<0.01
Aroclor 1254	µg/L	<0.01
Aroclor 1260	µg/L	<0.01

Total Phenolics in Water		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date extracted	-	22/08/2016
Date analysed	-	22/08/2016
Total Phenolics (as Phenol)	mg/L	<0.05

HM in water - dissolved		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date prepared	-	22/08/2016
Date analysed	-	22/08/2016
Arsenic-Dissolved	µg/L	53
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	2
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	29
Zinc-Dissolved	µg/L	8

Cations in water Dissolved		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date digested	-	23/08/2016
Date analysed	-	23/08/2016
Calcium - Dissolved	mg/L	63
Magnesium - Dissolved	mg/L	120
Hardness	mgCaCO ₃ /L	640

Perfluoroalkylated Substances in Waters		
Our Reference:	UNITS	152153-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	19/08/2016
Type of sample		Water
Date prepared	-	02/09/2016
Date analysed	-	02/09/2016
Perfluorobutanesulfonic acid	µg/L	0.002
Perfluorohexanesulfonic acid	µg/L	0.004
Perfluorooctanesulfonic acid	µg/L	<0.001
PFOS		
Perfluorodecanesulfonic acid	µg/L	<0.02
Perfluorobutanoic acid	µg/L	<0.02
Perfluorohexanoic acid	µg/L	0.003
Perfluoroheptanoic acid	µg/L	<0.001
Perfluorooctanoic acid PFOA	µg/L	0.001
Perfluorononanoic acid	µg/L	<0.001
Perfluorodecanoic acid	µg/L	<0.02
Perfluoroundecanoic acid	µg/L	<0.02
Perfluorododecanoic acid	µg/L	<0.05
Perfluorotridecanoic acid	µg/L	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5
4:2 FTS	µg/L	<0.001
6:2 FTS	µg/L	<0.001
8:2 FTS	µg/L	<0.001
Perfluorooctane sulfonamide	µg/L	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05
N-Ethyl perfluorooctanesulfon - amide	µg/L	<0.1
N-Me perfluorooctanesulfonamid -oethanol	µg/L	<0.05
N-Et perfluorooctanesulfonamid -oethanol	µg/L	<0.5
Surrogate ¹³ C ₄ PFOS	%	99

Method ID	Methodology Summary
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-020	Determination of various metals by ICP-AES.
Org-035	Soil samples are extracted with Methanol, evaporated and reconstituted. Waters are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results
VOCs in water						Base Duplicate %RPD
Date extracted	-			22/08/2016	152153-1	22/08/2016 23/08/2016
Date analysed	-			23/08/2016	152153-1	23/08/2016 24/08/2016
Dichlorodifluoromethane	µg/L	10	Org-013	<10	152153-1	<10 <10
Chloromethane	µg/L	10	Org-013	<10	152153-1	<10 <10
Vinyl Chloride	µg/L	10	Org-013	<10	152153-1	<10 <10
Bromomethane	µg/L	10	Org-013	<10	152153-1	<10 <10
Chloroethane	µg/L	10	Org-013	<10	152153-1	<10 <10
Trichlorofluoromethane	µg/L	10	Org-013	<10	152153-1	<10 <10
1,1-Dichloroethene	µg/L	1	Org-013	<1	152153-1	<1 <1
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1-dichloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	152153-1	<1 <1
Bromochloromethane	µg/L	1	Org-013	<1	152153-1	<1 <1
Chloroform	µg/L	1	Org-013	<1	152153-1	7 8 RPD: 13
2,2-dichloropropane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2-dichloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1,1-trichloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1-dichloropropene	µg/L	1	Org-013	<1	152153-1	<1 <1
Cyclohexane	µg/L	1	Org-013	<1	152153-1	<1 <1
Carbon tetrachloride	µg/L	1	Org-013	<1	152153-1	<1 <1
Benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Dibromomethane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2-dichloropropane	µg/L	1	Org-013	<1	152153-1	<1 <1
Trichloroethene	µg/L	1	Org-013	<1	152153-1	<1 <1
Bromodichloromethane	µg/L	1	Org-013	<1	152153-1	2 2 RPD: 0
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	152153-1	<1 <1
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1,2-trichloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
Toluene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,3-dichloropropane	µg/L	1	Org-013	<1	152153-1	<1 <1
Dibromochloromethane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2-dibromoethane	µg/L	1	Org-013	<1	152153-1	<1 <1
Tetrachloroethene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
Chlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Ethylbenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Bromoform	µg/L	1	Org-013	<1	152153-1	<1 <1
m+p-xylene	µg/L	2	Org-013	<2	152153-1	<2 <2
Styrene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	152153-1	<1 <1
o-xylene	µg/L	1	Org-013	<1	152153-1	<1 <1

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results
VOCs in water						Base Duplicate %RPD
1,2,3-trichloropropane	µg/L	1	Org-013	<1	152153-1	<1 <1
Isopropylbenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Bromobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
n-propyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
2-chlorotoluene	µg/L	1	Org-013	<1	152153-1	<1 <1
4-chlorotoluene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Tert-butyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,3-dichlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Sec-butyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,4-dichlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
4-isopropyl toluene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2-dichlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
n-butyl benzene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Hexachlorobutadiene	µg/L	1	Org-013	<1	152153-1	<1 <1
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	152153-1	<1 <1
Surrogate	%		Org-013	94	152153-1	104 123 RPD: 17
Dibromofluoromethane						
Surrogate toluene-d8	%		Org-013	97	152153-1	94 98 RPD: 4
Surrogate 4-BFB	%		Org-013	97	152153-1	90 99 RPD: 10

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results		
vTRH(C6-C10)/BTEXN in Water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	152153-1	22/08/2016 23/08/2016		
Date analysed	-			23/08/2016	152153-1	23/08/2016 24/08/2016		
TRHC ₆ - C ₉	µg/L	10	Org-016	<10	152153-1	<10 <10		
TRHC ₆ - C ₁₀	µg/L	10	Org-016	<10	152153-1	<10 <10		
Benzene	µg/L	1	Org-016	<1	152153-1	<1 <1		
Toluene	µg/L	1	Org-016	<1	152153-1	<1 <1		
Ethylbenzene	µg/L	1	Org-016	<1	152153-1	<1 <1		
m+p-xylene	µg/L	2	Org-016	<2	152153-1	<2 <2		
o-xylene	µg/L	1	Org-016	<1	152153-1	<1 <1		
Naphthalene	µg/L	1	Org-013	<1	152153-1	<1 <1		
Surrogate Dibromofluoromethane	%		Org-016	94	152153-1	104 123 RPD: 17		
Surrogate toluene-d8	%		Org-016	97	152153-1	94 98 RPD: 4		
Surrogate 4-BFB	%		Org-016	97	152153-1	90 99 RPD: 10		
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
Date analysed	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
TRHC ₁₀ - C ₁₄	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	103%
TRHC ₁₅ - C ₂₈	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	102%
TRHC ₂₉ - C ₃₆	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	90%
TRH>C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	103%
TRH>C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	102%
TRH>C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	90%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-W1	92%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
Date analysed	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
Naphthalene	µg/L	0.2	Org-012	<0.2	[NT]	[NT]	LCS-W1	72%
Acenaphthylene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W1	72%
Phenanthrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W1	78%
Anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W1	72%
Pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W1	72%

Client Reference: 85594, Liverpool Civic Place

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Benzo(a)anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(b,j +k)fluoranthene	µg/L	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	LCS-W1	76%
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	65	[NT]	[NT]	LCS-W1	72%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
OCP in water - Trace level						Base II Duplicate II %RPD		
Date extracted	-			25/08/2016	[NT]	[NT]	LCS-W1	25/08/2016
Date analysed	-			25/08/2016	[NT]	[NT]	LCS-W1	25/08/2016
HCB	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
alpha-BHC	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	115%
gamma-BHC	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
beta-BHC	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	122%
Heptachlor	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	111%
delta-BHC	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
Aldrin	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	102%
Heptachlor Epoxide	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	136%
gamma-Chlordane	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
alpha-Chlordane	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
Endosulfan I	µg/L	0.002	Org-005	<0.002	[NT]	[NT]	[NR]	[NR]
pp-DDE	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	115%
Dieldrin	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	137%
Endrin	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	123%
pp-DDD	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	120%
Endosulfan II	µg/L	0.002	Org-005	<0.002	[NT]	[NT]	[NR]	[NR]
DDT	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	LCS-W1	124%
Methoxychlor	µg/L	0.001	Org-005	<0.001	[NT]	[NT]	[NR]	[NR]
Mirex	µg/L	0.002	Org-012	<0.002	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	122	[NT]	[NT]	LCS-W1	114%

Client Reference: 85594, Liverpool Civic Place

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCB in water - trace level Aroclors						Base II Duplicate II %RPD		
Date prepared	-			25/08/2016	[NT]	[NT]	LCS-W1	25/08/2016
Date analysed	-			26/08/2016	[NT]	[NT]	LCS-W1	26/08/2016
Aroclor 1016	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	LCS-W1	118%
Aroclor 1260	µg/L	0.01	Org-012/017	<0.01	[NT]	[NT]	[NR]	[NR]
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Water						Base II Duplicate II %RPD		
Date extracted	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
Date analysed	-			22/08/2016	[NT]	[NT]	LCS-W1	22/08/2016
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-031	<0.05	[NT]	[NT]	LCS-W1	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
HM in water - dissolved								
Date prepared	-			22/08/2016				
Date analysed	-			22/08/2016				
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1				
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05				
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1				

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Cations in water Dissolved						Base II Duplicate II %RPD		
Date digested	-			23/08/2016	[NT]	[NT]	LCS-W1	23/08/2016
Date analysed	-			23/08/2016	[NT]	[NT]	LCS-W1	23/08/2016
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	LCS-W1	109%
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	LCS-W1	108%
Hardness	mgCaCO ₃ /L	3		<3.0	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Perfluoroalkylated Substances in Waters						Base II Duplicate II %RPD		
Date prepared	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Date analysed	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Perfluorobutanesulfonic acid	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	101%
Perfluorohexanesulfonic acid	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	91%
Perfluorooctanesulfonic acid PFOS	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	105%
Perfluorodecanesulfonic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	LCS-W1	80%
Perfluorobutanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	LCS-W1	102%
Perfluorohexanoic acid	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	103%
Perfluoroheptanoic acid	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	98%
Perfluorooctanoic acid PFOA	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	93%
Perfluorononanoic acid	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	78%
Perfluorodecanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	LCS-W1	92%
Perfluoroundecanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	LCS-W1	106%
Perfluorododecanoic acid	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	LCS-W1	104%
Perfluorotridecanoic acid	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	LCS-W1	98%
Perfluorotetradecanoic acid	µg/L	0.5	Org-035	<0.5	[NT]	[NT]	LCS-W1	86%
4:2 FTS	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	99%
6:2 FTS	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	106%
8:2 FTS	µg/L	0.001	Org-035	<0.001	[NT]	[NT]	LCS-W1	64%
Perfluorooctane sulfonamide	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	LCS-W1	100%
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	LCS-W1	97%
N-Ethyl perfluorooctanesulfon - amide	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	LCS-W1	91%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Perfluoroalkylated Substances in Waters						Base II Duplicate II %RPD		
N-Me perfluorooctanesulfonamid -oethanol	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	LCS-W1	90%
N-Et perfluorooctanesulfonamid -oethanol	µg/L	0.5	Org-035	<0.5	[NT]	[NT]	LCS-W1	82%
Surrogate ¹³ C ₄ PFOS	%		Org-035	101	[NT]	[NT]	LCS-W1	97%
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate		Spike Sm#	Spike % Recovery	
VOCs in water				Base + Duplicate + %RPD				
Date extracted	-		[NT]		[NT]	LCS-W2	22/08/2016	
Date analysed	-		[NT]		[NT]	LCS-W2	23/08/2016	
Dichlorodifluoromethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Chloromethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Vinyl Chloride	µg/L		[NT]		[NT]	[NR]	[NR]	
Bromomethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Chloroethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Trichlorofluoromethane	µg/L		[NT]		[NT]	[NR]	[NR]	
1,1-Dichloroethene	µg/L		[NT]		[NT]	[NR]	[NR]	
Trans-1,2-dichloroethene	µg/L		[NT]		[NT]	[NR]	[NR]	
1,1-dichloroethane	µg/L		[NT]		[NT]	LCS-W2	77%	
Cis-1,2-dichloroethene	µg/L		[NT]		[NT]	[NR]	[NR]	
Bromochloromethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Chloroform	µg/L		[NT]		[NT]	LCS-W2	74%	
2,2-dichloropropane	µg/L		[NT]		[NT]	[NR]	[NR]	
1,2-dichloroethane	µg/L		[NT]		[NT]	LCS-W2	85%	
1,1,1-trichloroethane	µg/L		[NT]		[NT]	LCS-W2	85%	
1,1-dichloropropene	µg/L		[NT]		[NT]	[NR]	[NR]	
Cyclohexane	µg/L		[NT]		[NT]	[NR]	[NR]	
Carbon tetrachloride	µg/L		[NT]		[NT]	[NR]	[NR]	
Benzene	µg/L		[NT]		[NT]	[NR]	[NR]	
Dibromomethane	µg/L		[NT]		[NT]	[NR]	[NR]	
1,2-dichloropropane	µg/L		[NT]		[NT]	[NR]	[NR]	
Trichloroethene	µg/L		[NT]		[NT]	LCS-W2	88%	
Bromodichloromethane	µg/L		[NT]		[NT]	LCS-W2	84%	
trans-1,3-dichloropropene	µg/L		[NT]		[NT]	[NR]	[NR]	
cis-1,3-dichloropropene	µg/L		[NT]		[NT]	[NR]	[NR]	
1,1,2-trichloroethane	µg/L		[NT]		[NT]	[NR]	[NR]	
Toluene	µg/L		[NT]		[NT]	[NR]	[NR]	
1,3-dichloropropane	µg/L		[NT]		[NT]	[NR]	[NR]	
Dibromochloromethane	µg/L		[NT]		[NT]	LCS-W2	84%	
1,2-dibromoethane	µg/L		[NT]		[NT]	[NR]	[NR]	

QUALITY CONTROL VOCs in water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Tetrachloroethene	µg/L	[NT]	[NT]	LCS-W2	82%
1,1,1,2-tetrachloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Bromoform	µg/L	[NT]	[NT]	[NR]	[NR]
m+p-xylene	µg/L	[NT]	[NT]	[NR]	[NR]
Styrene	µg/L	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	µg/L	[NT]	[NT]	[NR]	[NR]
o-xylene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	µg/L	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	µg/L	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
Tert-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Sec-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%	[NT]	[NT]	LCS-W2	93%
Surrogate toluene-d8	%	[NT]	[NT]	LCS-W2	115%
Surrogate 4-BFB	%	[NT]	[NT]	LCS-W2	96%

Client Reference: 85594, Liverpool Civic Place

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-	[NT]	[NT]	LCS-W2	23/08/2016
TRHC ₆ - C ₉	µg/L	[NT]	[NT]	LCS-W2	89%
TRHC ₆ - C ₁₀	µg/L	[NT]	[NT]	LCS-W2	89%
Benzene	µg/L	[NT]	[NT]	LCS-W2	88%
Toluene	µg/L	[NT]	[NT]	LCS-W2	94%
Ethylbenzene	µg/L	[NT]	[NT]	LCS-W2	93%
m+p-xylene	µg/L	[NT]	[NT]	LCS-W2	84%
o-xylene	µg/L	[NT]	[NT]	LCS-W2	85%
Naphthalene	µg/L	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%	[NT]	[NT]	LCS-W2	93%
Surrogate toluene-d8	%	[NT]	[NT]	LCS-W2	115%
Surrogate 4-BFB	%	[NT]	[NT]	LCS-W2	96%
QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-W2	22/08/2016
Date analysed	-	[NT]	[NT]	LCS-W2	22/08/2016
Arsenic-Dissolved	µg/L	[NT]	[NT]	LCS-W2	98%
Cadmium-Dissolved	µg/L	[NT]	[NT]	LCS-W2	96%
Chromium-Dissolved	µg/L	[NT]	[NT]	LCS-W2	98%
Copper-Dissolved	µg/L	[NT]	[NT]	LCS-W2	100%
Lead-Dissolved	µg/L	[NT]	[NT]	LCS-W2	99%
Mercury-Dissolved	µg/L	[NT]	[NT]	LCS-W2	98%
Nickel-Dissolved	µg/L	[NT]	[NT]	LCS-W2	97%
Zinc-Dissolved	µg/L	[NT]	[NT]	LCS-W2	99%

Report Comments:

Dissolved Metals: no preserved sample was received, therefore the unpreserved sample was filtered through 0.45um filter at the lab.
Note: there is a possibility some elements may be underestimated.

OC/PCB analysed by MPL Laboratories. Report No.184791.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

CHAIN OF CUSTODY

Client: Douglas Partners Contact Person: David Holden Project Mgr: David Holden				Project Number: 85594 Project Name: Liverpool PO No.:				To: Envirolab Services Contact Person: Aileen Hie Address: 12 Ashley Street Chatswood NSW 2068			
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Phone: 9809 0666 Mob: 0412 985 938 Email: David.Holden@douglaspartners.com.au				Date results required: 48hr <i>Note: Inform lab in advance if urgent turnaround is required - surcharges apply</i>				Laboratory Report No.:			
Comments:				Report format: Esdat/PDF / Excel				Lab Comments:			

Sample information					Tests Required					Comments		
Lab Sample ID	Field Sample ID	Depth	Date sampled	Container Type	Type of sample	arsenic					Combo	Provide as much information about the sample as you can
1	1	2.6	15/08/2016	jar	rock	X						
2	1	9.7	15/08/2016	jar	rock	X						
3	2	2.7	16/08/2016	jar	rock	X						
4	2	11.6	16/08/2016	jar	rock	X						
 Envirolab Services 12 Ashley St Chatswood NSW 2068 Ph: (02) 9910 6200												
Job No: 152619 Date Received: 30.8.16 Time Received: 15:30 Received by: CN Temp: Cool/Ambient Cooling: Ice/Icepack Security: (Initials) Broken/None												
Relinquished by: Douglas Partners												
Courier (by whom)												
Condition of Sample at dispatch Cool or Ambient (circle)												
Temperature (if Applicable):												
Print Name: David Holden												
Date & Time: 30/08/2016, 1:00pm												
Signature:												

Sample Receipt	
Received by (Company): GLS	Lab use only:
Print Name: Laura	Samples Received: Cool or Ambient (circle one)
Date & Time: 30.8.16, 15:30	Temperature Received at: (if applicable)
Signature:	Transported by: Hand delivered / courier



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152619

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Holden

Sample log in details:

Your Reference:	85594, Liverpool
No. of samples:	4 Rock Samples
Date samples received / completed instructions received	30/08/16 / 30/08/16

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: / Issue Date:	1/09/16 / 1/09/16
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152619
Revision No: R 00

Acid Extractable metals in soil					
Our Reference:	UNITS	152619-1	152619-2	152619-3	152619-4
Your Reference	-----	1	1	2	2
	-				
Depth	-----	2.6	9.7	2.7	11.6
Date Sampled		15/08/2016	15/08/2016	16/08/2016	16/08/2016
Type of sample		Rock	Rock	Rock	Rock
Date prepared	-	31/08/2016	31/08/2016	31/08/2016	31/08/2016
Date analysed	-	31/08/2016	31/08/2016	31/08/2016	31/08/2016
Arsenic	mg/kg	<4	<4	4	9

Moisture Our Reference: Your Reference	UNITS ----- -	152619-1 1	152619-2 1	152619-3 2	152619-4 2
Depth Date Sampled Type of sample	----- -	2.6 15/08/2016 Rock	9.7 15/08/2016 Rock	2.7 16/08/2016 Rock	11.6 16/08/2016 Rock
Date prepared	-	31/08/2016	31/08/2016	31/08/2016	31/08/2016
Date analysed	-	1/09/2016	1/09/2016	1/09/2016	1/09/2016
Moisture	%	8.1	6.5	6.6	2.3

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 85594, Liverpool

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base Duplicate %RPD		
Date prepared	-			31/08/2016	152619-1	31/08/2016 31/08/2016	LCS-4	31/08/2016
Date analysed	-			31/08/2016	152619-1	31/08/2016 31/08/2016	LCS-4	31/08/2016
Arsenic	mg/kg	4	Metals-020	<4	152619-1	<4 <4	LCS-4	103%
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Acid Extractable metals in soil								
Date prepared	-	[NT]		[NT]		152619-2	31/08/2016	
Date analysed	-	[NT]		[NT]		152619-2	31/08/2016	
Arsenic	mg/kg	[NT]		[NT]		152619-2	96%	

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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.

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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

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Spikes for Physical and Aggregate Tests are not applicable.

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Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

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In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Douglas Partners
Geotechnics | Environment | Groundwater

12 Ashley St
 Chatswood NSW 2067
 Ph: (02) 9910 6200

Job No: 152769
 Date Received: 01-09-2016
 Time Received: 17:15
 Received by: J.A.S.
 Temp: Cool/Ambient
 Cooling: Ice/kepack
 Security: intact/Broken/None



12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152799

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: Chris Bagia

Sample log in details:

Your Reference:	85594, Liverpool Civic Place
No. of samples:	1 water
Date samples received / completed instructions received	01/09/16 / 01/09/16

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
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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: / Issue Date:	2/09/16 / 2/09/16
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152799
Revision No: R 00

VOCs in water		
Our Reference:	UNITS	152799-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	1/09/2016
Type of sample		Water
Date extracted	-	01/09/2016
Date analysed	-	02/09/2016
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	4
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1

VOCs in water		
Our Reference:	UNITS	152799-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	1/09/2016
Type of sample		Water
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	107
Surrogate toluene-d8	%	100
Surrogate 4-BFB	%	111

HM in water - dissolved		
Our Reference:	UNITS	152799-1
Your Reference	-----	BH2
	-	
Date Sampled	-----	1/09/2016
Type of sample		Water
Date prepared	-	02/09/2016
Date analysed	-	02/09/2016
Arsenic-Dissolved	µg/L	8
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	4
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	8
Zinc-Dissolved	µg/L	15

Method ID	Methodology Summary
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in water						Base II Duplicate II %RPD		
Date extracted	-			01/09/2016	[NT]	[NT]	LCS-W1	01/09/2016
Date analysed	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Dichlorodifluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Chloromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Bromomethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Chloroethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	µg/L	10	Org-013	<10	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Trans-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	94%
Cis-1,2-dichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Chloroform	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	93%
2,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	99%
1,1,1-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	99%
1,1-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Dibromomethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Trichloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	114%
Bromodichloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	92%
trans-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	84%
1,2-dibromoethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene	µg/L	1	Org-013	<1	[NT]	[NT]	LCS-W1	97%
1,1,1,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromoform	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	µg/L	2	Org-013	<2	[NT]	[NT]	[NR]	[NR]
Styrene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
o-xylene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in water						Base II Duplicate II %RPD		
1,2,3-trichloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Tert-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Sec-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate	%		Org-013	96	[NT]	[NT]	LCS-W1	82%
Dibromofluoromethane								
Surrogate toluene-d8	%		Org-013	100	[NT]	[NT]	LCS-W1	101%
Surrogate 4-BFB	%		Org-013	106	[NT]	[NT]	LCS-W1	100%

Client Reference: 85594, Liverpool Civic Place

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
HM in water - dissolved						Base Duplicate %RPD		
Date prepared	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Date analysed	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	[NT]	[NT]	LCS-W1	101%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	96%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	99%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	102%
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	LCS-W1	100%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%

QUALITY CONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
HM in water - dissolved			Base + Duplicate + %RPD		
Date prepared	-	[NT]	[NT]	152799-1	02/09/2016
Date analysed	-	[NT]	[NT]	152799-1	02/09/2016
Arsenic-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Cadmium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Chromium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Copper-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Lead-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Mercury-Dissolved	µg/L	[NT]	[NT]	152799-1	96%
Nickel-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Zinc-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
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Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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Measurement Uncertainty estimates are available for most tests upon request.

Douglas Partners
Geotechnics | Environment | Groundwater

Job No: 1528012010

Date Received: 01.02.2010

Time Received: 17.15

Received by: JAN

Temp: Cool/Ambient

Cooling: Icelesspack

Security: Intact/Broken/None



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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS

152801

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: Chris Bagia

Sample log in details:

Your Reference:	85594, Liverpool Civic Place
No. of samples:	1 waters
Date samples received / completed instructions received	01/09/16 / 01/09/16

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: / Issue Date:	2/09/16 / 2/09/16
Date of Preliminary Report:	Not Issued

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Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
General Manager



Envirolab Reference: 152801
Revision No: R 00

HM in water - dissolved		
Our Reference:	UNITS	152801-1
Your Reference	-----	BH1
	-	
Date Sampled	-----	1/09/2016
Type of sample		Water
Date prepared	-	02/09/2016
Date analysed	-	02/09/2016
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	4
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	3
Zinc-Dissolved	µg/L	3

Method ID	Methodology Summary
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021	Determination of Mercury by Cold Vapour AAS.

Client Reference: 85594, Liverpool Civic Place

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
HM in water - dissolved						Base II Duplicate II %RPD		
Date prepared	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Date analysed	-			02/09/2016	[NT]	[NT]	LCS-W1	02/09/2016
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	[NT]	[NT]	LCS-W1	101%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	96%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	99%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	102%
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	LCS-W1	100%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	103%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	David Holden

Sample Login Details

Your reference	85594.02, Liverpool
Envirolab Reference	214376
Date Sample Received	27/03/2019
Date Instructions Received	27/03/2019
Date Results Expected to be Reported	03/04/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	14 SOIL, 1 MATERIAL
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:

Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	Asbestos ID - soils NEPM	PFAS in Soils Extended	Asbestos ID - materials
BH101-0.2-0.25	✓	✓	✓	✓	✓	✓	✓	✓	✓			
BH101-0.7-0.8	✓	✓	✓				✓					
BD3/20190326	✓	✓	✓				✓					
BH102-0.2-0.3	✓	✓	✓				✓		✓			
TP101-0-0.1	✓	✓	✓				✓		✓			
TP101-0.2-0.26											✓	
TP102-0-0.1										✓	✓	
TP102-0.4-0.5	✓	✓	✓				✓		✓			
TP102-1.0-1.1	✓	✓	✓				✓					
TP103-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓			
TP103-0.3-0.4										✓		
TP104-0.5-0.6										✓		
TP104-0.6-0.7	✓	✓	✓				✓					
TP105-0-0.1										✓		
A1												✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Project No: 85594.02				Suburb: LIVERPOOL				To: Envirolab Chatswood			
Project Name: Liverpool Civic Place				Order Number							
Project Manager: DIH				Sampler: NW				Attn:			
Emails: nicola.warton@douglaspartners.com.au; david.holden@douglaspartners.com.au				Phone:							
Date Required: Standard ☐				Email:							
Prior Storage: ☐ Fridge				Do samples contain 'potential' HBM? Yes ☐ No ☐ (If YES, then handle, transport and store in accordance with FPM HAZID)							

Sample ID	Lab ID	Date Sampled	Sample Type	Container Type	Analytes							Asbestos ID	Job No:	Date Received:	Time Received:	Received by:	Temp:	Cooling:	Security:	Notes/preservation	
			S - soil W - water	G - glass P - plastic	Combo 8a	Combo 3	Combo 3a	AFFA	PFAS												
BH101/ 0.2-0.25	1	26/03/19	S	G/P	X ✓																
BH101/ 0.7-0.8	2					X ✓															
BD3/20190326	3					X															
BH102/ 0.2-0.3	4							X ✓													
TP101/0-0.1	5							X ✓													
TP101/0.2-0.26	6								X ✓												
TP102/0-0.1	7								X ✓	X ✓											
TP102/0.4-0.5	8							X ✓													
TP102/1.0-1.1	9						X														
TP103/0-0.1	10					X ✓															
TP103/0.3-0.4	11								X ✓												
TP104/0.5-0.6	12								X ✓												
TP104/0.6-0.7	13						X														
TP105/0-0.1	14								X ✓												
A1	15										X ✓										
PQL (S) mg/kg															ANZECC PQLs req'd for all water analytes ☐						
PQL = practical quantitation limit. If none given, default to Laboratory Method Detection Limit											Lab Report/Reference No:										
Metals to Analyse: 8HM unless specified here:																					
Total number of samples in container:					Relinquished by:					Transported to laboratory by:											
Send Results to: Douglas Partners Pty Ltd					Address:					Phone:					Fax:						
Signed: NW					Received by: Kevin [Signature]					Date & Time: 27/3/19											

CERTIFICATE OF ANALYSIS 214376

Client Details

Client	Douglas Partners Pty Ltd
Attention	David Holden
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	85594.02, Liverpool
Number of Samples	14 SOIL, 1 MATERIAL
Date samples received	27/03/2019
Date completed instructions received	27/03/2019

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	03/04/2019
Date of Issue	01/04/2019
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Asbestos Approved By

Analysed by Asbestos Approved Identifier: Aida Marner, Matt Tang
 Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By

Giovanni Agosti, Group Technical Manager
 Lucy Zhu, Senior Asbestos Analyst
 Matthew Tang, Asbestos Supervisor
 Nancy Zhang, Laboratory Manager, Sydney
 Phalak Inthakesone, Organics Development Manager, Sydney
 Steven Luong, Organics Supervisor

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		214376-1	214376-2	214376-3	214376-4	214376-5
Your Reference	UNITS	BH101	BH101	BD3/20190326	BH102	TP101
Depth		0.2-0.25	0.7-0.8	-	0.2-0.3	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	82	86	99	90

vTRH(C6-C10)/BTEXN in Soil

Our Reference		214376-8	214376-9	214376-10	214376-13
Your Reference	UNITS	TP102	TP102	TP103	TP104
Depth		0.4-0.5	1.0-1.1	0-0.1	0.6-0.7
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	91	86	88

svTRH (C10-C40) in Soil

Our Reference		214376-1	214376-2	214376-3	214376-4	214376-5
Your Reference	UNITS	BH101	BH101	BD3/20190326	BH102	TP101
Depth		0.2-0.25	0.7-0.8	-	0.2-0.3	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	250
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	250
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	280
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	520
Surrogate o-Terphenyl	%	91	93	93	94	97

svTRH (C10-C40) in Soil

Our Reference		214376-8	214376-9	214376-10	214376-13
Your Reference	UNITS	TP102	TP102	TP103	TP104
Depth		0.4-0.5	1.0-1.1	0-0.1	0.6-0.7
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	200	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	560	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	590	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	530	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	1,100	<50	<50	<50
Surrogate o-Terphenyl	%	89	92	92	92

PAHs in Soil						
Our Reference		214376-1	214376-2	214376-3	214376-4	214376-5
Your Reference	UNITS	BH101	BH101	BD3/20190326	BH102	TP101
Depth		0.2-0.25	0.7-0.8	-	0.2-0.3	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
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	<0.1	<0.1	<0.1	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.6
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.7
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.5
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.6
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	1
Benzo(a)pyrene	mg/kg	0.07	<0.05	<0.05	<0.05	1.0
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.7
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.2
Total +ve PAH's	mg/kg	0.3	<0.05	<0.05	<0.05	7.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.4
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.4
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	1.4
Surrogate <i>p</i> -Terphenyl-d14	%	105	106	104	105	108

PAHs in Soil					
Our Reference		214376-8	214376-9	214376-10	214376-13
Your Reference	UNITS	TP102	TP102	TP103	TP104
Depth		0.4-0.5	1.0-1.1	0-0.1	0.6-0.7
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Naphthalene	mg/kg	0.2	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.3	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.8	<0.1	0.1	0.6
Anthracene	mg/kg	0.4	<0.1	<0.1	0.1
Fluoranthene	mg/kg	2.4	<0.1	0.3	1.1
Pyrene	mg/kg	2.5	<0.1	0.3	1.1
Benzo(a)anthracene	mg/kg	1.8	<0.1	0.1	0.7
Chrysene	mg/kg	1.9	<0.1	0.2	0.8
Benzo(b,j+k)fluoranthene	mg/kg	4.9	<0.2	0.3	1
Benzo(a)pyrene	mg/kg	3.7	<0.05	0.2	0.67
Indeno(1,2,3-c,d)pyrene	mg/kg	2.0	<0.1	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	0.5	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	2.9	<0.1	0.1	0.4
Total +ve PAH's	mg/kg	24	<0.05	1.5	6.8
Benzo(a)pyrene TEQ calc (zero)	mg/kg	5.1	<0.5	<0.5	0.9
Benzo(a)pyrene TEQ calc(half)	mg/kg	5.1	<0.5	<0.5	0.9
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	5.1	<0.5	<0.5	0.99
Surrogate <i>p</i> -Terphenyl-d14	%	106	103	104	107

Organochlorine Pesticides in soil			
Our Reference		214376-1	214376-10
Your Reference	UNITS	BH101	TP103
Depth		0.2-0.25	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	89	88

Organophosphorus Pesticides			
Our Reference		214376-1	214376-10
Your Reference	UNITS	BH101	TP103
Depth		0.2-0.25	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	89	88

PCBs in Soil			
Our Reference		214376-1	214376-10
Your Reference	UNITS	BH101	TP103
Depth		0.2-0.25	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date extracted	-	28/03/2019	28/03/2019
Date analysed	-	29/03/2019	29/03/2019
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	0.2	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	0.2	<0.1
Surrogate TCLMX	%	89	88

Acid Extractable metals in soil

Our Reference		214376-1	214376-2	214376-3	214376-4	214376-5
Your Reference	UNITS	BH101	BH101	BD3/20190326	BH102	TP101
Depth		0.2-0.25	0.7-0.8	-	0.2-0.3	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Arsenic	mg/kg	6	6	10	8	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	6	9	6	12
Copper	mg/kg	32	11	20	23	22
Lead	mg/kg	210	22	24	18	14
Mercury	mg/kg	0.3	0.5	<0.1	<0.1	<0.1
Nickel	mg/kg	18	3	7	11	20
Zinc	mg/kg	300	35	47	51	29

Acid Extractable metals in soil

Our Reference		214376-8	214376-9	214376-10	214376-13	214376-16
Your Reference	UNITS	TP102	TP102	TP103	TP104	BH101 - [TRIPLICATE]
Depth		0.4-0.5	1.0-1.1	0-0.1	0.6-0.7	0.2-0.25
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Arsenic	mg/kg	<4	<4	<4	10	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.4	0.5
Chromium	mg/kg	3	2	28	22	14
Copper	mg/kg	17	7	23	120	48
Lead	mg/kg	11	3	10	470	260
Mercury	mg/kg	<0.1	<0.1	<0.1	0.7	0.5
Nickel	mg/kg	5	1	21	7	11
Zinc	mg/kg	14	10	42	290	400

Misc Soil - Inorg			
Our Reference		214376-1	214376-10
Your Reference	UNITS	BH101	TP103
Depth		0.2-0.25	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date prepared	-	29/03/2019	29/03/2019
Date analysed	-	29/03/2019	29/03/2019
Total Phenolics (as Phenol)	mg/kg	<5	<5

Moisture						
Our Reference	UNITS	214376-1	214376-2	214376-3	214376-4	214376-5
Your Reference		BH101	BH101	BD3/20190326	BH102	TP101
Depth		0.2-0.25	0.7-0.8	-	0.2-0.3	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Moisture	%	13	15	17	12	5.0

Moisture						
Our Reference	UNITS	214376-6	214376-7	214376-8	214376-9	214376-10
Your Reference		TP101	TP102	TP102	TP102	TP103
Depth		0.2-0.26	0-0.1	0.4-0.5	1.0-1.1	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Moisture	%	8.6	6.9	8.1	8.5	14

Moisture		
Our Reference	UNITS	214376-13
Your Reference		TP104
Depth		0.6-0.7
Date Sampled		26/03/2019
Type of sample		SOIL
Date prepared	-	28/03/2019
Date analysed	-	28/03/2019
Moisture	%	12

Asbestos ID - soils						
Our Reference	UNITS	214376-1	214376-4	214376-5	214376-8	214376-10
Your Reference		BH101	BH102	TP101	TP102	TP103
Depth		0.2-0.25	0.2-0.3	0-0.1	0.4-0.5	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Sample mass tested	g	Approx. 35g	Approx. 55g	Approx. 50g	Approx. 60g	Approx. 50g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
		Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils NEPM					
Our Reference		214376-7	214376-11	214376-12	214376-14
Your Reference	UNITS	TP102	TP103	TP104	TP105
Depth		0-0.1	0.3-0.4	0.5-0.6	0-0.1
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL
Date analysed	-	28/03/2019	28/03/2019	28/03/2019	28/03/2019
Sample mass tested	g	1,313	816.08	934.75	1,028.96
Sample Description	-	Brown coarse-grained soil & rocks	Brown sandy soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—	—	—
FA and AF Estimation*	g	—	—	—	—
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001

PFAS in Soils Extended			
Our Reference		214376-6	214376-7
Your Reference	UNITS	TP101	TP102
Depth		0.2-0.26	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date prepared	-	29/03/2019	29/03/2019
Date analysed	-	29/03/2019	29/03/2019
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	0.6
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1
10:2 FTS	µg/kg	<0.1	<0.1
Perfluorooctane sulfonamide	µg/kg	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1
N-Ethyl perfluorooctanesulfonamide	µg/kg	<1	<1
N-Me perfluorooctanesulfonamid ethanol	µg/kg	<1	<1
N-Et perfluorooctanesulfonamid ethanol	µg/kg	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2
Surrogate ¹³ C ₈ PFOS	%	100	103
Surrogate ¹³ C ₂ PFOA	%	97	93
Extracted ISTD ¹³ C ₃ PFBS	%	111	103
Extracted ISTD ¹⁸ O ₂ PFHxS	%	91	92
Extracted ISTD ¹³ C ₄ PFOS	%	95	95
Extracted ISTD ¹³ C ₄ PFBA	%	104	99

PFAS in Soils Extended			
Our Reference		214376-6	214376-7
Your Reference	UNITS	TP101	TP102
Depth		0.2-0.26	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Extracted ISTD ¹³ C ₃ PFPeA	%	108	99
Extracted ISTD ¹³ C ₂ PFHxA	%	111	101
Extracted ISTD ¹³ C ₄ PFHpA	%	103	100
Extracted ISTD ¹³ C ₄ PFOA	%	110	105
Extracted ISTD ¹³ C ₅ PFNA	%	109	96
Extracted ISTD ¹³ C ₂ PFDA	%	102	92
Extracted ISTD ¹³ C ₂ PFUnDA	%	89	94
Extracted ISTD ¹³ C ₂ PFDoDA	%	100	111
Extracted ISTD ¹³ C ₂ PFTeDA	%	68	88
Extracted ISTD ¹³ C ₂ 4:2FTS	%	137	116
Extracted ISTD ¹³ C ₂ 6:2FTS	%	179	124
Extracted ISTD ¹³ C ₂ 8:2FTS	%	#	126
Extracted ISTD ¹³ C ₈ FOSA	%	90	96
Extracted ISTD d ₃ N MeFOSA	%	85	89
Extracted ISTD d ₅ N EtFOSA	%	83	84
Extracted ISTD d ₇ N MeFOSE	%	84	99
Extracted ISTD d ₉ N EtFOSE	%	81	103
Extracted ISTD d ₃ N MeFOSAA	%	181	124
Extracted ISTD d ₅ N EtFOSAA	%	165	110
Total Positive PFHxS & PFOS	µg/kg	0.1	0.6
Total Positive PFOS & PFOA	µg/kg	0.1	0.6
Total Positive PFAS	µg/kg	0.1	0.6

Asbestos ID - materials		
Our Reference	UNITS	214376-15
Your Reference		A1
Depth		-
Date Sampled		26/03/2019
Type of sample		MATERIAL
Date analysed	-	28/03/2019
Mass / Dimension of Sample	-	120x75x5mm
Sample Description	-	Beige layered fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) NOTE #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	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. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	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. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	1	<25	<25	0	86	70
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	1	<25	<25	0	86	70
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	88	72
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	88	72
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	84	68
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	85	70
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	85	69
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	96	1	93	90	3	92	84

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	1	<50	<50	0	90	90
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	1	<100	<100	0	83	89
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	1	<100	<100	0	100	74
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	1	<50	<50	0	90	90
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	1	<100	<100	0	83	89
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	1	<100	<100	0	100	74
Surrogate o-Terphenyl	%		Org-003	93	1	91	90	1	106	101

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	110	98
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	110	101
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	0.1	0	118	108
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	0.1	0.1	0	106	95
Pyrene	mg/kg	0.1	Org-012	<0.1	1	0.1	0.2	67	107	96
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	<0.1	0.1	0	126	106
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	<0.2	0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	0.07	0.1	35	115	109
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	112	1	105	106	1	104	103

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	93	103
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	81	[NT]
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	82	84
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	81	87
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	97	93
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	88	88
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	111	108
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	94	94
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	84	83
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	89	85
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	92	1	89	88	1	85	83

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	93	89
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	89	81
Dimethoate	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	82	90
Fenitrothion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	105	93
Malathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	94	65
Parathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	117	112
Ronnel	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	90	88
Surrogate TCMX	%		Org-008	92	1	89	88	1	90	88

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date extracted	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	1	0.2	0.2	0	102	101
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	92	1	89	88	1	90	88

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	214376-10
Date prepared	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Date analysed	-			28/03/2019	1	28/03/2019	28/03/2019		28/03/2019	28/03/2019
Arsenic	mg/kg	4	Metals-020	<4	1	6	7	15	94	85
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	91	81
Chromium	mg/kg	1	Metals-020	<1	1	17	13	27	96	#
Copper	mg/kg	1	Metals-020	<1	1	32	34	6	103	82
Lead	mg/kg	1	Metals-020	<1	1	210	240	13	99	75
Mercury	mg/kg	0.1	Metals-021	<0.1	1	0.3	0.4	29	97	109
Nickel	mg/kg	1	Metals-020	<1	1	18	10	57	95	79
Zinc	mg/kg	1	Metals-020	<1	1	300	320	6	90	82

QUALITY CONTROL: Misc Soil - Inorg						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date prepared	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Date analysed	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Date prepared	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Date analysed	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	112	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-035	<5	[NT]	[NT]	[NT]	[NT]	99	[NT]
4:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
6:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
8:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
10:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Ethyl perfluorooctanesulfonamide	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-035	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-035	<5	[NT]	[NT]	[NT]	[NT]	101	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	86	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-035	<0.2	[NT]	[NT]	[NT]	[NT]	83	[NT]
Surrogate ¹³ C ₈ PFOS	%		Org-035	103	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate ¹³ C ₂ PFOA	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD ¹³ C ₃ PFBS	%		Org-035	118	[NT]	[NT]	[NT]	[NT]	112	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-035	100	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD ¹³ C ₄ PFOS	%		Org-035	108	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD ¹³ C ₄ PFBA	%		Org-035	113	[NT]	[NT]	[NT]	[NT]	110	[NT]
Extracted ISTD ¹³ C ₃ PFPeA	%		Org-035	118	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD ¹³ C ₂ PFHxA	%		Org-035	116	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD ¹³ C ₄ PFHpA	%		Org-035	113	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD ¹³ C ₄ PFOA	%		Org-035	107	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₅ PFNA	%		Org-035	97	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₂ PFDA	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD ¹³ C ₂ PFUnDA	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD ¹³ C ₂ PFDoDA	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD ¹³ C ₂ PFTeDA	%		Org-035	81	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD ¹³ C ₂ 4:2FTS	%		Org-035	127	[NT]	[NT]	[NT]	[NT]	114	[NT]
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-035	118	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-035	102	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD ¹³ C ₈ FOSA	%		Org-035	102	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d ₃ N MeFOSA	%		Org-035	93	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD d ₅ N EtFOSA	%		Org-035	86	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD d ₇ N MeFOSE	%		Org-035	98	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD d ₉ N EtFOSE	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD d ₃ N MeFOSAA	%		Org-035	115	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	[NT]
Extracted ISTD d ₅ N EtFOSAA	%		Org-035	103	[NT]	[NT]	[NT]	[NT]	89	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 214376-1 for Ni. Therefore a triplicate result has been issued as laboratory sample number 214376-16.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Note: Sample 214376-1 was sub-sampled from a jar provided by the client.

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Samples 214375-4, 5, 8, 10 were sub-sampled from bags provided by the client.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Acid Extractable Metals in Soil:

Low spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the low recovery was confirmed. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Nicola Warton

Sample Login Details

Your reference	85594.02, Liverpool
Envirolab Reference	214376-A
Date Sample Received	27/03/2019
Date Instructions Received	02/04/2019
Date Results Expected to be Reported	09/04/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	14 SOIL, 1 MATERIAL
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	Phone: 02 9910 6200
Fax: 02 9910 6201	Fax: 02 9910 6201
Email: ahie@envirolab.com.au	Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	pH of soil for fluid#determ.	pH of soil TCLP (after HCl)	Extraction fluid used	pH of final Leachate	Lead in TCLP	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(b)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP's Extended	On Hold
BH101-0.2-0.25	✓	✓	✓	✓	✓																			
BH101-0.7-0.8																								✓
BD3/20190326																								✓
BH102-0.2-0.3																								✓
TP101-0-0.1	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP101-0.2-0.26	✓	✓	✓	✓																			✓	
TP102-0-0.1	✓	✓	✓	✓																			✓	
TP102-0.4-0.5	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP102-1.0-1.1																								✓
TP103-0-0.1																								✓
TP103-0.3-0.4																								✓
TP104-0.5-0.6																								✓
TP104-0.6-0.7	✓	✓	✓	✓	✓																			
TP105-0-0.1																								✓
A1																								✓
BH101 - [TRIPLICATE]-0.2-0.25																								✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**



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Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

CERTIFICATE OF ANALYSIS 214376-A

Client Details

Client	Douglas Partners Pty Ltd
Attention	Nicola Warton
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>85594.02, Liverpool</u>
Number of Samples	14 SOIL, 1 MATERIAL
Date samples received	27/03/2019
Date completed instructions received	02/04/2019

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.

Report Details

Date results requested by	09/04/2019
Date of Issue	08/04/2019
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Results Approved By

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 Steven Luong, Organics Supervisor

Authorised By



Jacinta Hurst, Laboratory Manager

Metals in TCLP USEPA1311

Our Reference		214376-A-1	214376-A-5	214376-A-6	214376-A-7	214376-A-8
Your Reference	UNITS	BH101	TP101	TP101	TP102	TP102
Depth		0.2-0.25	0-0.1	0.2-0.26	0-0.1	0.4-0.5
Date Sampled		26/03/2019	26/03/2019	26/03/2019	26/03/2019	26/03/2019
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	05/04/2019	05/04/2019	05/04/2019	05/04/2019	05/04/2019
Date analysed	-	05/04/2019	05/04/2019	05/04/2019	05/04/2019	05/04/2019
pH of soil for fluid# determ.	pH units	9.3	9.4	9.1	9.0	8.8
pH of soil TCLP (after HCl)	pH units	2.1	2.1	2.1	2.2	2.1
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.4	5.4	5.1	5.2	5.0
Lead in TCLP	mg/L	0.1	[NA]	[NA]	[NA]	[NA]

Metals in TCLP USEPA1311

Our Reference		214376-A-13
Your Reference	UNITS	TP104
Depth		0.6-0.7
Date Sampled		26/03/2019
Type of sample		SOIL
Date extracted	-	05/04/2019
Date analysed	-	05/04/2019
pH of soil for fluid# determ.	pH units	8.0
pH of soil TCLP (after HCl)	pH units	2.1
Extraction fluid used	-	1
pH of final Leachate	pH units	5.1
Lead in TCLP	mg/L	0.04

PAHs in TCLP (USEPA 1311)			
Our Reference		214376-A-5	214376-A-8
Your Reference	UNITS	TP101	TP102
Depth		0-0.1	0.4-0.5
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date extracted	-	05/04/2019	05/04/2019
Date analysed	-	06/04/2019	06/04/2019
Naphthalene in TCLP	mg/L	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	<0.001
Anthracene in TCLP	mg/L	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	<0.001
Pyrene in TCLP	mg/L	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001
Benzo(b)fluoranthene in TCLP	mg/L	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	NIL (+)VE
Surrogate <i>p</i> -Terphenyl-d14	%	92	94

PFAS in TCLP's Extended			
Our Reference		214376-A-6	214376-A-7
Your Reference	UNITS	TP101	TP102
Depth		0.2-0.26	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Date prepared	-	05/04/2019	05/04/2019
Date analysed	-	05/04/2019	05/04/2019
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01
10:2 FTS	µg/L	<0.01	<0.01
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05
N-Ethyl perfluorooctanesulfonamide	µg/L	<0.1	<0.1
N-Me perfluorooctanesulfonamid ethanol	µg/L	<0.05	<0.05
N-Et perfluorooctanesulfonamid ethanol	µg/L	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic aci	µg/L	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
Surrogate ¹³ C ₈ PFOS	%	105	112
Surrogate ¹³ C ₂ PFOA	%	103	102
Extracted ISTD ¹³ C ₃ PFBS	%	89	92
Extracted ISTD ¹⁸ O ₂ PFHxS	%	93	95
Extracted ISTD ¹³ C ₄ PFOS	%	96	90
Extracted ISTD ¹³ C ₄ PFBA	%	89	87

PFAS in TCLP's Extended			
Our Reference		214376-A-6	214376-A-7
Your Reference	UNITS	TP101	TP102
Depth		0.2-0.26	0-0.1
Date Sampled		26/03/2019	26/03/2019
Type of sample		SOIL	SOIL
Extracted ISTD ¹³ C ₃ PFPeA	%	95	95
Extracted ISTD ¹³ C ₂ PFHxA	%	97	96
Extracted ISTD ¹³ C ₄ PFHpA	%	95	95
Extracted ISTD ¹³ C ₄ PFOA	%	95	94
Extracted ISTD ¹³ C ₅ PFNA	%	102	102
Extracted ISTD ¹³ C ₂ PFDA	%	98	102
Extracted ISTD ¹³ C ₂ PFUnDA	%	93	96
Extracted ISTD ¹³ C ₂ PFDoDA	%	85	83
Extracted ISTD ¹³ C ₂ PFTeDA	%	63	59
Extracted ISTD ¹³ C ₂ 4:2FTS	%	99	95
Extracted ISTD ¹³ C ₂ 6:2FTS	%	103	94
Extracted ISTD ¹³ C ₂ 8:2FTS	%	113	119
Extracted ISTD ¹³ C ₈ FOSA	%	104	101
Extracted ISTD d ₃ N MeFOSA	%	86	86
Extracted ISTD d ₅ N EtFOSA	%	86	83
Extracted ISTD d ₇ N MeFOSE	%	107	101
Extracted ISTD d ₉ N EtFOSE	%	106	97
Extracted ISTD d ₃ N MeFOSAA	%	94	103
Extracted ISTD d ₅ N EtFOSAA	%	97	93
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using in house method INORG-004. Please note that the mass used may be scaled down from the default based on sample mass available.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-012	Leachates are extracted with Dichloromethane and analysed by GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals in TCLP USEPA1311						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			05/04/2019	[NT]	[NT]	[NT]	[NT]	05/04/2019	[NT]
Date analysed	-			05/04/2019	[NT]	[NT]	[NT]	[NT]	05/04/2019	[NT]
Lead in TCLP	mg/L	0.03	Metals-020 ICP-AES	<0.03	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			05/04/2019	[NT]	[NT]	[NT]	[NT]	05/04/2019	[NT]
Date analysed	-			06/04/2019	[NT]	[NT]	[NT]	[NT]	06/04/2019	[NT]
Naphthalene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	86	[NT]
Acenaphthylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	92	[NT]
Phenanthrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	94	[NT]
Anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	92	[NT]
Pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	92	[NT]
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	112	[NT]
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	Org-012	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	88	[NT]
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	109	[NT]	[NT]	[NT]	[NT]	113	[NT]

QUALITY CONTROL: PFAS in TCLP's Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			05/04/2019	[NT]	[NT]	[NT]	[NT]	05/04/2019	[NT]
Date analysed	-			05/04/2019	[NT]	[NT]	[NT]	[NT]	05/04/2019	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	114	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	116	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	119	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
4:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
6:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	108	[NT]
8:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	110	[NT]
10:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	[NT]	[NT]	108	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	111	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-035	<0.05	[NT]	[NT]	[NT]	[NT]	108	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-035	<0.5	[NT]	[NT]	[NT]	[NT]	117	[NT]
MePerfluorooctanesulf- amid oacetic aci	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	113	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-035	<0.02	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate ¹³ C ₈ PFOS	%		Org-035	104	[NT]	[NT]	[NT]	[NT]	109	[NT]
Surrogate ¹³ C ₂ PFOA	%		Org-035	100	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD ¹³ C ₃ PFBS	%		Org-035	91	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PFAS in TCLP's Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-035	93	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD ¹³ C ₄ PFOS	%		Org-035	92	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD ¹³ C ₄ PFBA	%		Org-035	92	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD ¹³ C ₃ PFPeA	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD ¹³ C ₂ PFHxA	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₄ PFHpA	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD ¹³ C ₄ PFOA	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD ¹³ C ₅ PFNA	%		Org-035	99	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD ¹³ C ₂ PFDA	%		Org-035	98	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD ¹³ C ₂ PFUnDA	%		Org-035	86	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD ¹³ C ₂ PFDoDA	%		Org-035	86	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD ¹³ C ₂ PFTeDA	%		Org-035	70	[NT]	[NT]	[NT]	[NT]	71	[NT]
Extracted ISTD ¹³ C ₂ 4:2FTS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-035	99	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-035	114	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD ¹³ C ₈ FOSA	%		Org-035	102	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD d ₃ N MeFOSA	%		Org-035	87	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD d ₅ N EtFOSA	%		Org-035	87	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD d ₇ N MeFOSE	%		Org-035	98	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD d ₉ N EtFOSE	%		Org-035	89	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD d ₃ N MeFOSAA	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: PFAS in TCLP's Extended					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD d ₅ N EtFOSAA	%		Org-035	103	[NT]	[NT]	[NT]	[NT]	97	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	David Holden

Sample Login Details

Your reference	85594.02, Liverpool
Envirolab Reference	214386
Date Sample Received	27/03/2019
Date Instructions Received	27/03/2019
Date Results Expected to be Reported	03/04/2019

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	12.3
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	HM in water - dissolved	Cations in water Dissolved	PFAS in Water ShortTrace
BH2	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Rev4/October2016

CERTIFICATE OF ANALYSIS 214386

Client Details

Client	Douglas Partners Pty Ltd
Attention	David Holden
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>85594.02, Liverpool</u>
Number of Samples	1 soil
Date samples received	27/03/2019
Date completed instructions received	27/03/2019

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.

Report Details

Date results requested by	03/04/2019
Date of Issue	02/04/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Giovanni Agosti, Group Technical Manager
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By



Jacinta Hurst, Laboratory Manager

HM in water - dissolved		
Our Reference		214386-1
Your Reference	UNITS	BH2
Date Sampled		26/03/2019
Type of sample		soil
Date prepared	-	29/03/2019
Date analysed	-	29/03/2019
Arsenic-Dissolved	µg/L	1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	3
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	3
Zinc-Dissolved	µg/L	5

Cations in water Dissolved		
Our Reference		214386-1
Your Reference	UNITS	BH2
Date Sampled		26/03/2019
Type of sample		soil
Date digested	-	29/03/2019
Date analysed	-	29/03/2019
Calcium - Dissolved	mg/L	19
Magnesium - Dissolved	mg/L	35
Hardness	mgCaCO ₃ /L	190

PFAS in Water Short Trace		
Our Reference		214386-1
Your Reference	UNITS	BH2
Date Sampled		26/03/2019
Type of sample		soil
Date prepared	-	29/03/2019
Date analysed	-	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.63
Perfluorooctanesulfonic acid PFOS	µg/L	0.092
Perfluorooctanoic acid PFOA	µg/L	0.023
6:2 FTS	µg/L	<0.0004
8:2 FTS	µg/L	<0.0004
Surrogate ¹³ C ₈ PFOS	%	98
Surrogate ¹³ C ₂ PFOA	%	90
Extracted ISTD ¹⁸ O ₂ PFHxS	%	89
Extracted ISTD ¹³ C ₄ PFOS	%	100
Extracted ISTD ¹³ C ₄ PFOA	%	89
Extracted ISTD ¹³ C ₂ 6:2FTS	%	145
Extracted ISTD ¹³ C ₂ 8:2FTS	%	122
Total Positive PFHxS & PFOS	µg/L	0.72
Total Positive PFOS & PFOA	µg/L	0.11
Total Positive PFAS	µg/L	0.74

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: HM in water - dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Date analysed	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	106	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: Cations in water Dissolved						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Date analysed	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Calcium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	107	[NT]
Magnesium - Dissolved	mg/L	0.5	Metals-020	<0.5	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: PFAS in Water Short Trace					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Date analysed	-			29/03/2019	[NT]	[NT]	[NT]	[NT]	29/03/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-035	<0.0002	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-035	<0.0002	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-035	<0.0002	[NT]	[NT]	[NT]	[NT]	103	[NT]
6:2 FTS	µg/L	0.0004	Org-035	<0.0004	[NT]	[NT]	[NT]	[NT]	103	[NT]
8:2 FTS	µg/L	0.0004	Org-035	<0.0004	[NT]	[NT]	[NT]	[NT]	116	[NT]
Surrogate ¹³ C ₈ PFOS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate ¹³ C ₂ PFOA	%		Org-035	94	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD ¹⁸ O ₂ PFHxS	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD ¹³ C ₄ PFOS	%		Org-035	90	[NT]	[NT]	[NT]	[NT]	80	[NT]
Extracted ISTD ¹³ C ₄ PFOA	%		Org-035	114	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD ¹³ C ₂ 6:2FTS	%		Org-035	147	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD ¹³ C ₂ 8:2FTS	%		Org-035	96	[NT]	[NT]	[NT]	[NT]	73	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Appendix G

Summary of Laboratory Soil Results

Summary of Laboratory Groundwater Results

Table G1: Summary of Groundwater Laboratory Results

Table G1: Summary of Groundwater Laboratory Results			BTEX						Metals								Organochlorine Pesticides																						
			Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	C6-Cl0 less BTEX (F1)	Hardness	Lead (Filtered)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+V) (Filtered)	Copper (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	HCB	Heptachlor	Heptachlor epoxide	Mirex	Methoxychlor		
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mgCaCO ₃ /L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
EQL	1	1	1	2	1	10	3	1	1	1	1	1	0.05	1	1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001		
NEPM 2013 Commercial HSL D GW for Vapour Intrusion, Sand 2-4m	800	NL	NL	NL	NL	1000	3																																
ANZG 2018 for Fresh Water; 95% Level of Protection				200	350			3.4	13	0.2	2.5	1.4	0.6	11	8						0.08				0.01		0.2			0.02	0.2		0.09						
PFAS NEMP 2018 for Fresh Water; 95% Level of Protection																																							
US EPA- Regional Screening Levels																																							
Location	Sample Depth	Sample Date																																					
DP (2017b) Investigation																																							
BH1	7.5 m	19/08/2016	<1	<1	<1	<2	<1	<10	79	<1	2	<0.1	<1	3	<0.05	3	1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001
BD1	7.5 m	19/08/2016	<1	<1	<1	<2	<1	<10	-	<1	2	<0.1	<1	3	<0.05	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH1	7.5 m	1/09/2016	-	-	-	-	-	-	-	<1	<1	<0.1	<1	4	<0.05	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH2	10 m	19/08/2016	<1	<1	<1	<2	<1	<10	640	<1	53	<0.1	<1	2	<0.05	29	8	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001
BH2	10 m	1/09/2016	-	-	-	-	-	-	-	<1	8	<0.1	<1	4	<0.05	8	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Current Investigation																																							
BH2	10 m	26/03/2019	-	-	-	-	-	-	190	<1	1	<0.1	<1	3	<0.05	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
QA/QC																																							
Trip Blank	Trip Blank	19/08/2016	<1	<1	<1	<2	<1	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trip Spike	Trip Spike	19/08/2016	105%	105%	110%	105%	108%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Note: Criteria for metals adjusted for moderately hard water

Table G1: Summary of Groundwater Laboratory Results

Table G1: Summary of Groundwater Laboratory Results			PAH/Phenols																Polychlorinated Biphenyls								VOC			PFAs		TRH								
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b) & (k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total +ve)	Phenanthrene	Total Phenolics	Pyrene	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Chloroform	Bromodichloromethane	VOC (Sum of total +ve)	PFOS (Sum of total +ve)	PFOA (Sum of total +ve)	C10-C16	C16-C34	C34-C40	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29-C36	
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
EQL	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.05	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1	1	-	-	-	50	100	100	50	10	50	100	100		
NEPM 2013 Commercial HSL D GW for Vapour Intrusion, Sand 2-4m														5000																				1000						
ANZG 2018 for Fresh Water; 95% Level of Protection														16		320	320					0.6		0.03		370														
PFAS NEMP 2018 for Fresh Water; 95% Level of Protection																												0.13	220											
US EPA- Regional Screening Levels																										80														
Location	Sample Depth	Sample Date																																						
DP (2017b) Investigation																																								
BH1	7.5 m	19/08/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	0	<0.1	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1	0	-	-	<50	<100	<100	<50	<10	<50	<100	<100	
BD1	7.5 m	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<10	<50	<100	<100	
BH1	7.5 m	1/09/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH2	10 m	19/08/2016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	0	<0.1	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	7	2	9	0.006	0.004	<50	<100	<100	<50	<10	<50	<100	<100	
BH2	10 m	1/09/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	5	-	-	-	-	-	-	-	-	-	-	-	
Current Investigation																																								
BH2	10 m	26/03/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.092	0.023	-	-	-	-	-	-	-	-	
QA/QC																																								
Trip Blank	Trip Blank	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trip Spike	Trip Spike	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Note: Criteria for metals adjusted for moderately hard water

Table G2: Summary of Soil Laboratory Results

Table G2: Summary of Soil Laboratory Results				B(a)P Total Potency Equivale	BTEX								Metals																			
					Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total ^{#4}	C6-Cl10 less BTEX (F1)	Lead	Lead (TCLP)	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Nickel (TCLP)	Zinc	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC			
EQL				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg						
NEPM 2013 HILs/HSLs Res B Soil				4	140	5900	21,000			17,000	5600	1200		500	150		30,000	120	1200		60,000			10								
NEPM 2013 Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m					0.5	55	160			40	45																					
NEPM 2013 Management Limits in Res / Parkland, Coarse Soil																																
NSW 2014 General Solid Waste (CT1)					10	600	288			1000		100		100	20	100		4	40													
NSW 2014 General Solid Waste (SCC1 and TCLP1)												1500	5			1900		50	1050	2												
ANZECC (1992) - For Natural Material					0.05-1		0.1-1					<2-200		0.2-30	0.04-2	0.5-110	1-190	0.001-0.1	2-400		2-180											
Location	Sample Depth	Sample Date	Srtata																													
DP (2017b) Investigation																																
BH1	0.1-0.2	15/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	2	-	<4	<0.4	6	37	<0.1	43	0.08	19	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH1	0.5-0.6	15/08/2016	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	18	-	5	<0.4	7	40	<0.1	13	-	67	-	-	-	-	-	-	-				
BD1	-	15/08/2016	Natural	-	<0.2	<1	<0.5	<2	<1	<3	<25	18	-	5	<0.4	7	42	<0.1	15	-	83	-	-	-	-	-	-	-				
BH1	2.6	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-					
BH1	9.7	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	<4	-	-	-	-	-	-	-	-	-	-	-	-	-					
BH2	0.5-0.6	16/08/2016	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	11	-	4	<0.4	48	24	<0.1	23	-	29	-	-	-	-	-	-	-				
BH2	2.7	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-					
BH2	11.6	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-					
BH3	0.5-0.6	15/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	30	-	6	<0.4	18	33	<0.1	19	-	86	-	-	-	-	-	-	-				
BH4	0.1-0.2	15/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	21	-	4	<0.4	13	31	<0.1	18	-	59	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH5	0.03-0.1	15/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	2	-	<4	<0.4	5	59	<0.1	39	-	31	-	-	-	-	-	-					
BH6	0.5-0.6	15/08/2016	Fill	0.6	<0.2	<1	<0.5	<2	<1	<3	<25	150	0.2	11	<0.4	20	29	0.4	9	-	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH7	0.2-0.3	16/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	56	-	6	<0.4	13	32	<0.1	14	-	80	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH7	0.4-0.5	16/08/2016	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	4	-	5	<0.4	4	11	<0.1	3	-	18	-	-	-	-	-	-					
BD2	-	16/08/2016	Natural	-	<0.2	<1	<0.5	<2	<1	<3	<25	4	-	<4	<0.4	4	9	<0.1	3	-	16	-	-	-	-	-	-					
BH8	0.2-0.3	16/08/2016	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	14	-	10	<0.4	13	17	<0.1	7	-	25	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH8	0.5-0.6	16/08/2016	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	11	-	10	<0.4	21	23	<0.1	11	-	41	-	-	-	-	-	-					
BH9	1-1.45	16/08/2016	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<3	<25	15	-	5	<0.4	18	16	0.3	7	-	44	-	-	-	-	-	-	-				
QA/QC																																
Trip Spike		16/08/2016	Soil	-	89%	98%	94%	98%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Trip Blank		16/08/2016	Soil	-	<0.2	<1	<0.5	<2	<1	<3	<25	14	-	<4	<0.4	11	7	<0.1	7	7	43	-	-	-	-	-	-	-				
Additional Investigation																																
BH201*	0.2-0.25	26/03/2019	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	210	0.1	6	<0.4	17	32	0.3	18	-	300	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH201- [LAB REPLICATE]	0.2-0.25	26/03/2019	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	240	-	7	<0.4	13	34	0.4	10	-	320	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
BH201 - [LAB TRIPLICATE]	0.2-0.25	26/03/2019	Fill	-	-	-	-	-	-	-	-	260	-	7	0.5	14	48	0.5	11	-	400	-	-	-	-	-	-	-				
BH201	0.7-0.8	26/03/2019	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	22	-	6	<0.4	6	11	0.5	3	-	35	-	-	-	-	-	-	-				
BD3/20190326	-	26/03/2019	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	24	-	10	<0.4	9	20	<0.1	7	-	47	-	-	-	-	-	-	-				
BH202*	0.2-0.3	26/03/2019	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	18	-	8	<0.4	6	23	<0.1	11	-	51	-	-	-	-	-	-	-				
TP101	0-0.1	26/03/2019	Fill	1.4	<0.2	<1	<0.5	<2	<1	<1	<25	14	-	<4	<0.4	12	22	<0.1	20	-	29	-	-	-	-	-	-	-				
TP101	0.2-0.25	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
TP102	0-0.1	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
TP102	0.4-0.5	26/03/2019	Fill	5.1	<0.2	<1	<0.5	<2	<1	<1	<25	11	-	<4	<0.4	3	17	<0.1	5	-	14	-	-	-	-	-	-	-				
TP102	1.0-1.1	26/03/2019	Natural	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	3	-	<4	<0.4	2	7	<0.1	1	-	10	-	-	-	-	-	-	-				
TP103	0-0.1	26/03/2019	Fill	<0.5	<0.2	<1	<0.5	<2	<1	<1	<25	10	-	<4	<0.4	28	23	<0.1	21	-	42	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1				
TP103	0.3-0.4	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
TP104	0.5-0.6	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
TP104	0.6-0.7	26/03/2019	Fill	0.99	<0.2	<1	<0.5	<2	<1	<1	<25	470	0.04	10	0.4	22	120	0.7	7	-	290	-	-	-	-	-	-	-				
TP105	0-0.1	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
A1	-	26/03/2019	Material	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

Notes:
- Not tested
BD1 Taken at BH1/0.5-0.6
BD2 Taken at BH7/0.4-0.5
BD3/20190326 Taken at BH201/0.7-0.8

Table G2: Summary of Soil Laboratory Results

Table G2: Summary of Soil Laboratory Results				Organochlorine Pesticides												Organophosphorous Pesticides										PAH/Phenols																						
				DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	γ-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dimethoate	Ethion	Fenitrothion	Ronnel	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(a) Pyrene (TCLP)	Benzo(b) & (k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	PAHs (Sum of total 4)	Phenanthrene	Phenolics Total	Pyrene						
EQL	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
NEPM 2013 HILs/HSLs Res B Soil	0.1	0.1	600	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05		0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
NEPM 2013 Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																																																
NEPM 2013 Management Limits in Res / Parkland, Coarse Soil																																																
NSW 2014 General Solid Waste (CT1)															4													0.8																				
NSW 2014 General Solid Waste (SCC1 and TCLP1)																												10																				
ANZECC (1992) - For Natural Material																																																
Location	Sample Depth	Sample Date	Srtata																																													
DP (2017b) Investigation																																																
BH1	0.1-0.2	15/08/2016	Fill	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<5	<0.1		
BH1	0.5-0.6	15/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	-	<0.1
BD1	-	15/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH1	2.6	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH1	9.7	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH2	0.5-0.6	16/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	-	<0.1	
BH2	2.7	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH2	11.6	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BH3	0.5-0.6	15/08/2016	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	-	<0.1	
BH4	0.1-0.2	15/08/2016	Fill	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<5	<0.1	
BH5	0.03-0.1	15/08/2016	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	-	<0.1
BH6	0.5-0.6	15/08/2016	Fill	<0.1	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1																													

Table G2: Summary of Soil Laboratory Results

Table G2: Summary of Soil Laboratory Results				Polychlorinated Biphenyls							PFAS				TRH										Asbestos (AFA)		
				Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PFOs & PFHxS (Sum of +)	TCLP PFOS+PFHxS	PFOA (Sum of total +ve)	TCLP PFOA	C10-C16	C16-C34	C34-C40	P2-NAPHTHALENE	C6- C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C6-C10			
EQL				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%w/w		
NEPM 2013 HILs/HSLs Res B Soil				0.1	0.1		0.1	0.1		0.1	0.1	0.00001	0.00001	0.00001	0.00001	50	100	100	50	25	50	100	100	250	25	0.001	
NEPM 2013 Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																5800	8100	4200							0.001		
NEPM 2013 Management Limits in Res / Parkland, Coarse Soil																1000	3500	10,000						800			
NSW 2014 General Solid Waste (CT1)																			650				10,000				
NSW 2014 General Solid Waste (SCC1 and TCLP1)											1.8	0.05	18	0.5													
ANZECC (1992) - For Natural Material																											
Location	Sample Depth	Sample Date	Srtata																								
DP (2017b) Investigation																											
BH1	0.1-0.2	15/08/2016	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH1	0.5-0.6	15/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BD1	-	15/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH1	2.6	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH1	9.7	15/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH2	0.5-0.6	16/08/2016	Natural	-	-	-	-	-	-	-	0	-	0	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH2	2.7	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH2	11.6	16/08/2016	Rock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH3	0.5-0.6	15/08/2016	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH4	0.1-0.2	15/08/2016	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH5	0.03-0.1	15/08/2016	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH6	0.5-0.6	15/08/2016	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH7	0.2-0.3	16/08/2016	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	-	0	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH7	0.4-0.5	16/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BD2	-	16/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH8	0.2-0.3	16/08/2016	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH8	0.5-0.6	16/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	130	<50	<25	<50	<100	<100	<250	<25	-		
BH9	1-1.45	16/08/2016	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	200	<100	<50	<25	<50	<100	<100	<250	<25	-		
QA/QC																											
Trip Spike		16/08/2016	Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Trip Blank		16/08/2016	Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<25	-	-	-	-	<25	-		
Additional Investigation																											
BH201*	0.2-0.25	26/03/2019	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH201- [LAB REPLICATE]	0.2-0.25	26/03/2019	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH201 - [LAB TRIPLICATE]	0.2-0.25	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
BH201	0.7-0.8	26/03/2019	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BD3/20190326	-	26/03/2019	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
BH202*	0.2-0.3	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
TP101	0-0.1	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	250	280	<50	<25	<50	<100	250	250	<25	-		
TP101	0.2-0.25	26/03/2019	Fill	-	-	-	-	-	-	-	0.0001	<0.02	<0.0001	<0.01	-	-	-	-	-	-	-	-	-	-	-		
TP102	0-0.1	26/03/2019	Fill	-	-	-	-	-	-	-	0.0006	<0.02	<0.0001	<0.01	-	-	-	-	-	-	-	-	-	-	<0.001		
TP102	0.4-0.5	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	590	530	<50	<25	<50	200	560	760	<25	-		
TP102	1.0-1.1	26/03/2019	Natural	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
TP103	0-0.1	26/03/2019	Fill	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
TP103	0.3-0.4	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001		
TP104	0.5-0.6	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001		
TP104	0.6-0.7	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	<50	<25	<50	<100	<100	<250	<25	-		
TP105	0-0.1	26/03/2019	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001		
A1	-	26/03/2019	Material	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes:

- Not tested
BD1 Taken at BH1/0.5-0.6
BD2 Taken at BH7/0.4-0.5
BD3/20190326 Taken at BH201/0.7-0.8