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CONVERTIA PTY LTD

Preliminary Site Investigation with Limited Sampling

2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW

Report E23668.E01_Rev1
07 February 2018

REPORT DISTRIBUTION

Preliminary Site Investigation with Limited Sampling
2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW

EI Report No.: E23668.E01_Rev1
Date: 07 February 2018

Copies	Recipient
1. Soft Copy (PDF – Secured, issued by email)	Mr John Mouawad Convertia Pty Ltd Suite 1, 17 Wilga Street BURWOOD NSW 2134
1. Original (Saved to Digital Archives)	EI Australia Suite 6.01, 55 Miller Street, PYRMONT NSW 2009

Author:	Technical Reviewer:
	
CLARE MADIGAN Environmental Scientist	**NATHAN FOSTER** Senior Environmental Scientist

Revision	Details	Date	Amended By
0	Original	06 February 2018	-
1	Revision – Client Recommendations	07 February 2018	CM

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EXECUTIVE SUMMARY

Background and Objectives

Mr John Mouawad of Convertia Pty Ltd ("the Client") engaged El Australia (EI) to conduct a Preliminary Site Investigation with Limited Sampling (PSI) for the property located at address 2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW ('the site'). This environmental assessment is required to appraise the environmental condition of the site as part of a planning proposal of the site.

At the time of this assessment, the site was occupied by five residential dwellings and a commercial building. The site covered a total area of approximately 4,885m².

The main objective of this investigation was to preliminary characterise the environmental conditions of the site on the basis of historical land uses, anecdotal and documentary evidence of possible pollutant sources, and limited sampling from the site.

Key Findings

The property located at 2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW was the subject of a Preliminary Site Investigation with Limited Sampling. EI understand that this assessment is required to appraise the environmental condition of the site as part of a planning proposal of site for the proposed construction of four adjoining ten to fifteen-storey mixed-use development buildings with a multi-level basement car park covering entire site footprint, and to evaluate potential for on-site contamination associated with current and former land uses.

Based on the findings of this assessment, it is concluded that:

- The site is located approximately 11 km west of Sydney Central Business District (CBD), within the Local Government Area of Strathfield Council (see **Figure 1**). The land parcel is also identified as Lot 100 DP807807, SP8785, Lot 8 & 9 DP15917, Lot A & B DP100558, covering a total area of approximately 4,885m², as depicted in the site plan presented as **Figure 2**;
- Historical records indicate the site appears to have been used for residential and commercial use since at least the early 1930s. The residential apartment dwellings appear to be evident on site from at least 1943, with the service station occupying the eastern side of the site from the mid-1990s. Site use has remained the same since 1990s to present;
- The site and surrounding properties are not reported as being subject to regulation in relation to environmental impacts, as documented in the EPA public registers;
- Verbal confirmation of SafeWork NSW records and visual evidence indicated UPSS's to be located on site at the service station (9-11 Albert Road);
- A request to access Strathfield Council's site history records was initiated on 16 January 2018, however Council approval was still pending at the time of writing. Should pertinent information be identified upon receipt of Council records, an addendum to the PSI will be prepared and issued;
- A site walkover inspection identified the sites current uses consist of residential and commercial purposes, potential asbestos containing material (ACM) was noted within some of the buildings materials, illegal dumping had previously occurred on site and strong effluent odour and water leakage was evident along the driveway at 11-13 Albert Road;
- This CSM model was reviewed and further developed by EI which was then analysed in conjunction to the information gathered from the site walkover inspection and site history review. From this analysis EI considered that the recommendation made by EI of completing an intrusive site investigation was warranted to conduct sampling using systematic sampling regime across the site;

- Soil sampling and analysis were conducted at five test bore locations. The sub-surface layers comprised fill and residual soils overlying clay and weathered shale;
- Results of soil samples collected from soil test boreholes indicated the following:
  - The reported concentration of priority metals were reported below the adopted human and ecological health criteria, with the following exceptions: Lead BH102), Copper (BH101 and BH102), and Zinc (BH102);
  - Total recoverable hydrocarbons (TRH), BTEX, and PAH concentrations were all below the corresponding NEPM 2013 health-based criteria's;
  - No pesticides (OCPs, OPPs) or PCBs were reported; and
  - Asbestos was not identified in laboratory analysed soil samples.
- Groundwater was not encountered by EI during the investigation due to refusal in weathered shale. Three shallow groundwater monitoring wells were installed; however they were all reported dry at the time of sampling. Groundwater flow direction was not calculated during this investigation, however, groundwater is anticipated to flow north-east towards Parramatta River; and
- We note that the following data gaps, as outlined in the CSM in **Section 5.4** remain that require closure:
  - Further intrusive investigation of the site to satisfy the sampling density requirements of EPA (1995);
  - The quality of soils beneath building structure areas of the site not assessed during this DSI. Provided that the majority of the site is to be bulk excavated for the basement, the supplementary investigation may be carried out as part of the waste classification for excavated materials;
  - The condition of soil and groundwater in the immediate vicinity of current and historical UPSS areas, including bowser islands, fill points, and fuel lines;
  - The quality of groundwater onsite and down-hydraulic gradient of the service station site, including background groundwater quality migrating onto the site;
  - Confirmation of groundwater flow direction by survey of groundwater monitoring wells by a licensed surveyor;
  - Potential presence of hazardous materials present within the existing structures; and
  - The suitability of retained deep soils to be used for landscaping purposes on the northern perimeter of the site.

Based on the findings from this PSI conducted in accordance with the investigation scope agreed with the Client, and with consideration of the Statement of Limitations (**Section 13**), EI conclude that in light of the site access restrictions and constraints, several data gaps remain that will require closure to satisfactorily characterise the fill soils. In view of the proposed development scope, and currently available information, EI consider that the site can be made suitable for the proposed land use,

provided recommendations detailed in **Section 12** are implemented at a future development application stage. It should be noted that this is not required at the planning proposal stage.

Conclusions and Recommendations

Based on the findings of this PSI, the following recommendations will be required to be implemented during site redevelopment to confirm the site as being suitable for the proposed development, at a future development application stage:

- Prior to site demolition, carry out a Hazardous Materials Survey on existing site structures to identify potentially hazardous building products that may be released to the environment during demolition;
- Review of available environmental reports previously prepared for the service station site;
- Preparation and implementation of a Remedial Action Plan (RAP), which should:
  - Design supplementary investigations to close the data gaps identified during this investigation;
  - Outline the remediation requirements for UPSS decommissioning, and remediation and validation activities in accordance with the *POEO (UPSS) Regulation 2014* and associated guidance documents, and other contamination that may be identified during data gap closure investigations;
  - Provide the requirements and procedure for waste classification assessment, in order to enable classification of site soils to be excavated and disposed off-site during the proposed basement excavation, in accordance with the *Waste Classification Guidelines* (EPA, 2014); and
  - Provide a SAQP for the validation of remediation activities performed on-site.
- Undertake supplementary investigations, and subsequent remediation and validation works for the site, as outlined in the RAP. EI note that due to current site constrains, the additional investigations and remediation works may be conducted after site demolition when access to areas of environmental concern is made available;
- Any material being removed from site (including virgin excavated natural materials (VENM)) should be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM; and
- Preparation of a final site validation report by a suitably qualified environmental consultant, certifying site suitability of soils and groundwater for the proposed land use.

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1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

Mr John Mouawad engaged EI Australia (EI) to conduct a Preliminary Site Investigation with Limited Sampling (PSI) for site characterisation purposes of the land parcel with street address 2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW (herein referred to as the 'the site').

The site is located approximately 11 km west of Sydney Central Business District (CBD), within the Local Government Area of Strathfield Council (see **Figure 1**). The land parcel is also identified as Lot 100 DP807807, SP8785, Lot 8 & 9 DP15917, Lot A & B DP100558, covering a total area of approximately 4,885 m², as depicted in the site plan presented as **Figure 2**.

EI understand that this assessment is required as part of a planning proposal to investigate the potential for contamination to be present at the site by the completion of a qualitative appraisal of available historical site information, and limited intrusive investigation of soils and groundwater.

1.2 PROPOSED DEVELOPMENT

Based on the proposed development plans (Ref. JBA / Kennedy Associates Architects, Job No. 1361), the site has been designated for the construction of four adjoining ten to fifteen-storey mixed-use development buildings, with a multi-level basement car park covering the entire site footprint (as illustrated in the proposed development plans attached in **Appendix A**). It is understood that small perimeter deep soil landscaped areas area is proposed along the eastern site boundary.

1.3 REGULATORY FRAMEWORK

The following regulatory framework and guidelines were considered during the preparation of this report:

- EPA (1995) *Sampling Design Guidelines*;
- EPA (2017) *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme*;
- NEPC (2013) *Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater*;
- NEPC (2013) *Schedule B(2) Guideline on Site Characterisation*;
- *Contaminated Land Management Act 1997*;
- State Environment Protection Policy 55 (SEPP 55) – *Remediation of Land*; and
- OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*.

1.4 PROJECT OBJECTIVES

The main objectives of this assessment are:

- To evaluate the potential for site contamination on the basis of historical land uses, anecdotal and documentary evidence of possible pollutant sources (Preliminary Site Investigation); and
- To investigate potential contamination by means of limited intrusive sampling and laboratory analysis, for relevant contaminants of potential concern (COPC).

A further objective, should site contamination be confirmed, will be to make for the appropriate management of any contaminated soils and/or groundwater.

1.5 SCOPE OF WORKS

In accordance with EI fee proposal P15241.1 (dated 14 December 2017), to achieve the above objectives, the following scope of work was undertaken:

1.5.1 Desktop Study

Preliminary Ste Investigation (PSI):

- A review of relevant hydrogeological and soil landscape maps for the project area;
- A review of all previous environmental reports completed at the site;
- Detailed site walkover inspection;
- Search of historical aerial photographs archived at NSW Land and Property Information in order to review previous site use and the historical sequence of land development in the neighbouring area;
- Search of SafeWork NSW records for information relating to possible underground tank approvals and locations, and dangerous goods stored onsite;
- Site history survey involving a detailed search of Strathfield Council records for information relating to operational site history;
- A land titles search, also conducted through NSW Land and Property Information;
- A review of existing underground services on site; and
- A search through the NSW database records to confirm that there are no statutory notices current on the site under the *Contaminated Land Management Act 1997* or *Protection of the Environment Operations Act 1997*.

Limited Sampling:

- Construction of test boreholes at five (5) locations distributed in a targeted sampling approach across accessible areas of the site;
- Construction of three (3) groundwater monitoring bores drilled to a maximum depth of 9 m (or refusal) both up gradient and downgradient of the proposed redevelopment area. Groundwater monitoring bores will be constructed to standard environmental protocols to investigate the potential for groundwater contamination, and migration of contaminants off-site;
- Multiple level soil sampling within fill and natural soils and one round of groundwater sampling from the three newly constructed groundwater monitoring bores;
- Laboratory analysis of selected soil samples for relevant analytical parameters as determined from the site history survey and field observations during the investigation program; and
- Data interpretation and reporting.

1.5.2 Data Analysis and Reporting

Following the desktop assessment and site inspection, this PSI report was prepared generally in accordance with the OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites.* This report document the contaminated land assessment and discusses the findings with respect to potential risks to human health, the environment and the aesthetic enjoyment of the land and provides recommendations regarding further assessment to enable mitigation/management of any risks.

2. SITE DESCRIPTION

2.1 PROPERTY IDENTIFICATION, LOCATION AND PHYSICAL SETTING

The site identification details and associated information are presented in **Table 2-1**, while the site locality is shown in **Figure 1**.

Table 2-1 Site Identification, Location and Zoning

Attribute	Description
Street Address	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW
Location Description	Approx. 11 km west of Sydney Central Business District (CBD), bound by a railway corridor north, Raw Square east, Albert Road south and Pilgrim Avenue west. The site is currently occupied by Coles Express Service Station on the eastern portion, whilst the remainder of the site is occupied with three two-storey brick dwellings and two individual brick residential dwellings with associated concrete hardstand and grassed carparks.
Site Coordinates	North-eastern corner of site (datum GDA94-MGA56): Easting: 323586.107, Northing: 6250536.862 (Source: http://maps.six.nsw.gov.au)
Site Area	Approx. 4,885 m²
Lot and Deposited Plan (DP)	Lot 100 DP807807, SP8785, Lot 8 & 9 DP15917, Lot A & B DP100558.
State Survey Marks	Three State Survey (SS) marks are situated in close proximity to the site: • SS118033 (Approx. 36m south of site on the corner of Raw Square and Everton Road); • SS118032 (Approx. 75m north-east of site on the roundabout of Raw Square and Everton Road); and • SS44174 (Approx. 89m west of site on Elva Street). (Source: http://maps.six.nsw.gov.au/).
Local Government Authority	Strathfield Council
Parish	Concord
County	Cumberland
Current Zoning	B4 – Mixed Use Zone (Strathfield Local Environmental Plan 2018)

2.2 LOCAL LAND USE

The site is situated within an area of mixed uses on surrounding land as described in **Table 2-2**. The local sensitive receptors within close proximity to the site are also identified.

Table 2-2 Local Land Use

Direction	Land Use Description	Sensitive Receptors (& distance from site)
North	Railway Corridor, followed by Leicester Avenue	Railway Corridor (10 m North) Grassed Field (140 m North)
South	Albert Road, followed by individual residential dwellings and a multi-storey building	Individual Residential Dwellings (35 m South) Strathfield Plaza (200 m SE)
East	Raw Square, followed by multi-storey mixed-use apartment building and Strathfield Train Station	Multi-storey mixed-use apartment dwelling (40 m SE) Strathfield Station (175 m SE) Strathfield Square (215 m SE)
West	Pilgrim Avenue, followed by residential apartment dwellings	Two-storey residential apartment dwellings (25 m West) Powells Creek (140 m NW) Laker Reserve (150 m NW)

2.3 REGIONAL SETTING

Local topography, geology, soil landscape and hydrogeological information are summarised in **Table 2-3**.

Table 2-3 Topographical, Geological, Soil Landscape and Hydrogeological Information

Attribute	Description
Topography	The site topography consists of gently undulating rises on Wianamatta Group shales and Hawkesbury shale with local relief to 30 m and slopes are usually <5%. Crests and ridges are broad (200-600 m) and rounded with convex upper slopes grading into concave lower slopes.
Site Drainage	Site drainage is likely to be consistent with the general slope of the site towards Parramatta River
Regional Geology	The sites regional geology lies within the Wianamatta Group. It comprises Ashfield Shale which consists of laminate and dark grey siltstone and Bringelly Shale consisting of shale, with occasional calcareous claystone, laminate and coal. The unit is occasionally underlain by claystone and laminate lenses within the Hawkesbury Sandstone. Ref. 1:100 000 scale Geological Series Sheet 9130 (Sydney).
Soil Landscapes	The Soil Conservation Service of NSW Soil and Land Information of the Sydney 1:100,000 Sheet (Chapman and Murphy, 2002) indicates that the site overlies a *Blacktown (bt) Residual and Disturbed Terrain (xx) Landscapes.*
Acid Sulfate Soil Risk	The Strathfield LEP 2012 Acid Sulfate Soil Map (Sheet ASS_005) indicates that the site lies within an area classified as *Class 5* acid sulfate soils. Class 5 is classified as works within 500 m of adjacent Class 1, 2, 3 or 4 land that is below 5 m Australian Height Datum (AHD) and by which the watertable is likely to be lowered below 1 mAHD on adjacent Class 1, 2, 3 or 4 land. With reference to the 1:25 000 scale Prospect-Parramatta River Acid Sulfate Soil Risk Map – Edition Two (Ref. Murphy, 1997), the subject land lies within the map class description of *No Known Occurrence*. In such cases, acid sulfate soils (ASS) are not known or expected to occur and "land management activities are not likely to be affected by ASS materials".
Nearest Surface Water Feature	Powells Creek, approx. 140 m north-west of the site.

Attribute	Description
Anticipated Groundwater Flow Direction	North-east, towards Parramatta River

2.4 GROUNDWATER BORE RECORDS AND LOCAL GROUNDWATER USE

An online search of registered groundwater bores was conducted by EI on 17 January 2018 through the NSW Department of Primary Industry – Office of Water (Ref. http://allwaterdata.water.nsw.gov.au/water.stm). There were no registered bores within a 500 m radius of the site.

2.5 SITE WALKOVER INSPECTION

Site observations were recorded during a site walkover inspection of the site on 23 January 2018. A summary of site observations is detailed below and site photographs taken during the inspection are present in **Appendix C**. Site observations indicated the following:

- The current site use consists of three residential unit blocks, two individual residential dwellings and Coles Service Station. However, during the investigation we were unable to gain access to the service station;
- The site consists of overgrown green vegetation (including weeds) and patchy grasses with bare soil patches present across all properties (**Appendix C**, Photograph 11);
- General slope of the site is in a slight north-east direction;
- All residential properties displayed concrete driveways in poor conditions with cracking and deformation evident. However, the concrete hardstand present at the service station was of good conditions, with minimal cracking (**Appendix C**, Photographs 4-5, 10, 14 and 18);
- There was no evidence of underground storage tanks (USTs) or underground petroleum storage systems (UPSS) on site, surrounding the residential properties. However, several fill points where evident at the service station (**Appendix C**, photograph 25);
- General litter was present across all residential properties and their surrounding lands, while remnants of brick rubble was present in the backyard of 11-13 Albert Road (**Appendix C**, photograph 13, 16 and 23);
- Anecdotal Information indicated the aforementioned allotment has had an issue with illegal dumping occurring;
- Potential asbestos containing material (ACM) was noted on the awnings of the residential properties (**Appendix C**, photograph 19);
- A strong effluent odour was noted at the driveway of 11-13 Albert Road. The driveway was partially flooded with water in the same area, suggesting a burst sewer drain along the driveway (**Appendix C**, photograph 17);
- No other suspicious odours or evidence of gross contamination was observed at the site; and
- No evidence indicative of groundwater monitoring wells was observed across the site.

The location of site attributes discussed above is presented in **Figure 2**.

3. PREVIOUS INVESTIGATIONS

EI was not made aware of any previous environmental investigations conducted at the site.

4. SITE HISTORY AND SEARCHES

4.1 SITE LAND TITLES INFORMATION / HISTORIC AERIAL REVIEW

A historical land titles search was conducted through Scott Ashwood Pty Ltd. Copies of relevant documents resulting from this search are presented in **Appendix D**. A summary of all the previous and current registered proprietors along with information obtained from the available historical aerial photographs, in relation to past potential land uses are presented in **Table 4-1**. The historical aerial photographs reviewed as part of this PSI included:

- 1930: 6 March 1930, Run 4, Map 3424, B/W, Sydney Survey – Commonwealth of Australia;
- 1943: Six Maps (https://maps.six.nsw.gov.au/) 1943 Imagery – NSW Department of Finance and Services;
- 1951: May 1951, Run 13, B/W, NSW 467-92, Lands Photo;
- 1986: 3 August 1986, Run 22, Colour, NSW 3528, Map 54, Lands Photo;
- 1994: 4 October 1994, Run 10, NSW 4244, Colour, Map 165-177, NSW Lands Photo;
- 2002: 16 March 2002, Run 10, NSW 4724, Colour, Map 110-123, NSW Lands Photo; and
- 2014: Six Maps (https://maps.six.nsw.gov.au/).

Table 4-1 Summary of Owners

Date of Acquisition and term held	Registered Proprietor(s) & Occupations (where documented)	Associated business
Lot A DP 100558 – 9-13 Albert Road & 2-6 Pilgrim Avenue, Strathfield		
30.12.1909 (1909 to 1934)	Chief Commissioner of Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
07.03.1934 (1934 to 1934)	Arthur Clarke (Gentleman)	
24.08.1934 (1934 to 1956)	Arthur Clarke (Gentleman) Millicent Mary Clarke (Married Woman)	
04.05.1964 (1956 to 1964)	John James Timbs (Naval Lieutenant) Mary Norwood Timbs (Widow)	
04.05.1964 (1964 to 2003)	John James Timbs (Naval Lieutenant)	
19.08.2003 (2003 to 2009)	Johant (Nominees) Pty. Limited	
27.02.2009 (2009 to 2014)	Gabriel Hung Won Kang Christina Kyoung Hee Ham Kang	

Date of Acquisition and term held	**Registered Proprietor(s) & Occupations (where documented)**	**Associated business**
03.09.2014 (2014 to Date)	# Convertia Pty Ltd	
# Denotes Current Registered Proprietor **Easements: -** • 04.07.1956 (G328684) – Right of Carriage Way • 04.07.1956 (G328684) – Cross Easements **Leases: - NIL**		
Lot B DP 100558 – 9-13 Albert Road & 2-6 Pilgrim Avenue, Strathfield		
30.12.1909 (1909 to 1934)	Chief Commissioner of Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
07.03.1934 (1934 to 1934)	Arthur Clarke (Gentleman)	
24.08.1934 (1934 to 1955)	Arthur Clarke (Gentleman) Millicent Mary Clarke (Married Woman)	
13.10.1955 (1955 to 1969)	Edna Stanley Barrett (Married Woman)	
15.10.1969 (1969 to 2002)	Angelo Prestipino (Fruiterer) Maria Prestipino (Married Woman)	Residential
17.05.2002 (2002 to 2004)	Angelo Prestipino	Residential/ Commercial
28.05.2004 (2004 to 2009)	Johant (Nominees) Pty. Limited	
27.02.2009 (2009 to 2014)	Gabriel Hung Won Kang Christina Kyoung Hee Ham Kang	
03.09.2014 (2014 to Date)	# Convertia Pty Ltd	
# Denotes Current Registered Proprietor **Easements: -** • 04.07.1956 (G328684) – Right of Carriage Way • 04.07.1956 (G328684) – Cross Easements **Leases: - NIL**		
Lot 100 DP 807807 - 9-13 Albert Road & 2-6 Pilgrim Avenue, Strathfield		
As regards the part tinted green on attached cadastre		

Date of Acquisition and term held	**Registered Proprietor(s) & Occupations (where documented)**	**Associated business**
30.12.1909 (1909 to 1929)	Chief Commissioner for Railways and Tramways Now Railway Commissioner for New South Wales	Residential/ Commercial
18.11.1929 (1929 to 1933)	Hermann Hugo Korner (Watchmaker)	
18.04.1933 (1933 to 1958)	Martha Louise Korner (Widow) (Application by Transmission not investigated)	
22.04.1958 (1958 to 1963)	John E. Murray Pty. Limited	
31.07.1963 (1963 to 1963)	John Elkins Wailes (Solicitor)	
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	
As regards the part tinted blue on attached cadastre		
30.12.1909 (1909 to 1929)	Chief Commissioner for Railways and Tramways Now Railway Commissioner for New South Wales	
30.04.1929 (1929 to 1931)	Selwyn George Trevellyn Neale (Estate Agent) Henry George Smith (Estate Agent) Frank Arnold Weiss (Estate Agent)	
16.06.1931 (1931 to 1933)	Hermann Hugo Korner (Watchmaker)	
18.04.1933 (1933 to 1958)	Martha Louise Korner (Widow) (Application by Transmission not investigated)	Residential/ Commercial
31.03.1958 (1958 to 1963)	Russel Alexander Murray (Garage Proprietor)	
31.07.1963 (1963 to 1963)	John Ekins Wailes (Solicitor)	
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	Residential/ Commercial
As regards the parts tinted pink on attached Cadastre		
30.12.1909 (1909 to 1942)	Chief Commissioner for Railways and Tramways Now Railway Commissioner for New South Wales	Residential/ Commercial
17.02.1942 (1942 to 1955)	John Wilfred Cooper (Builder)	

Date of Acquisition and term held	**Registered Proprietor(s) & Occupations (where documented)**	**Associated business**
10.02.1955 (1955 to 1963)	Russel Alexander Murray (Garage Proprietor)	
31.07.1963 (1963 to 1963)	John Ekins Wailes (Solicitor)	
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	Residential
Continued as regards the whole of Lot 100 DP 807807		
23.11.2016 (2016 to Date)	# Ver Custodian Pty Limited	

Easements: - NIL

Leases: -

- 04.04.1930 (B966024) – Herbert Hayes (Garage Proprietor) – expired 12.06.1958 (part tinted green on attached Cadastre)
- 11.07.1958 (H84860) – The Shell Company of Australia Limited – merged into the fee simple 25.11.1963 (part tinted green on attached Cadastre)
- 04.07.2005 (AB570908) – Eureka Operations Limited – expires 28.04.2024
  - 23.11.206 (AK932586) – Concurrent Lease – Viva Energy Australia Pty Ltd – expires 07.08.2032 – option to purchase – also option of renewal 7 X 10 years.

As regards Lot 8 DP 15917		
30.12.1909 (1909 to 1935)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
24.05.1935 (1935 to 1936)	Ellen Amelia Spearman (Married Woman)	
09.11.1936 (1936 to 1937)	Claude Hilton Bellamy (Builder)	
18.11.1941 (1941 to 1952)	Edna Alice Houston (Widow) Now Edna Alice Englert (Married Woman) (Application by Transmission not investigated)	Residential/ Commercial
17.06.1952 (1952 to 1954)	John Thomas Williams (Patrolman)	
01.09.1954 (1954 to 1983)	Mary Adela McCrow (Spinster)	
18.04.1983 (1984 to 1986)	Edward Jones Elizabeth Anna Jones	
0.3.06.1986 (1986 to 1986)	Elizabeth Anna Jones	Residential

Date of Acquisition and term held	**Registered Proprietor(s) & Occupations (where documented)**	**Associated business**
18.08.1986 (1986 to 2014)	Harman Wong Linda Wong	Residential/ Commercial
12.04.2014 (2014 to Date)	# Convertia Pty Ltd	
Easements & Leases: - NIL		
As regards Lot 9 DP 15917		
30.12.1909 (1909 to 1938)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
25.01.1938 (1938 to 1941)	George leonard Marlow (Salesman) Percy Charles Marlow (Storekeeper)	
20.08.1941 (1941 to 1957)	James Thomas Reeves (Retired)	
30.01.1957 (1957 to 1962)	Victor Oswald Thomas reeves (Company Manager) (Section 94 Application not investigated)	
19.06.1962 (1962 to 1975)	Arhip Mihailovich Polstchikoff (Supervisor) Antonia Polstchikoff (Married Woman)	
26.09.1975 (1975 to 1980)	Kevin Douglas Bruce (Business Proprietor) Cherie Bruce (Married Woman)	
14.10.1980 (1980 to 1986)	Kazimir Savitsky (Retired) Olga Savitsky (married Woman)	Residential
09.12.1986 (1986 to 1999)	Olga Savitsky (Widow)	Residential/ Commercial
03.11.1999 (1999 to 2008)	Sunil Lal Chhabra Shikha Lal Chhabra	
08.02.2008 (2008 to 2013)	Alpha House Pty Ltd	
07.05.2013 (2013 to Date)	# Beta House Pty Ltd	
Easements & Leases: - NIL		
As regards SP 8785		
As regards the part tinted purple on attached Cadastre		
04.11.1921 (1921 to 1921)	James Alston Gregg (Grazier)	

Date of Acquisition and term held	**Registered Proprietor(s) & Occupations (where documented)**	**Associated business**
29.11.1921 (1921 to 1947)	Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
As regards the part tinted turquoise on attached Cadastre		
30.12.1909 (1909 to 1947)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Residential/ Commercial
As regards the part tinted		
18.06.1947 (1947 to 1950)	Claude Sydney Charles Mills (Taxi Cab Proprietor) Nora Mills (Married Woman)	
14.11.1950 (1950 to 1972)	John Bandi (Storekeeper) Imra Fenyves (Storekeeper) Now Imre Harold Pine (Storekeeper)	Residential/ Commercial
04.12.1972 (1972 to 1974)	John Bandi (Storekeeper) Ilona Bandi (Married Woman)	
15.10.1974	Registration of Strata Plan No. 8785	
Search continued as regards the Common Property areas		
15.10.1974 (1974 to Date)	# The Proprietors – Strata Plan No.8785 Now # The Owners – Strata Plan No. 8785	Residential

Easements & Leases: - NIL

Notes:
[#] Denotes Current Registered Proprietor

Evident in **Table 4-1** the site appears to have been used for residential and commercial use since at least the early 1930s. The residential apartment dwellings appear to be evident on site from at least 1943, with the service station occupying the eastern side of the site from the mid-1990s. Site use has remained the same since 1990s to present.

Table 4-2 Summary of Historical Aerial Photography

Aerial Photograph	Site description based on historical aerial photographs
1930	The site appears to be occupied by a single-storey dwelling in the south-eastern corner potentially used for commercial / residential purposes. The surrounding land use consists of grassed areas, with some large trees along the railway corridor boundary.
1943	The building in the south-eastern corner of the site remains the same as per previous aerial. However, the building is surrounded by three individual residential dwellings to the north and north-west, and two two-storey buildings directly west. There appears to be a large undeveloped area within the north-eastern corner of the site.
1951	The site remains the same as previous aerial photograph.
1986	The western portion of the site is completely occupied with residential dwellings, with an additional dwelling in the far north-west corner of the site. The building previously occupying the south-eastern corner of the site has been demolished. While the vacant area in the north-eastern corner of the site has three large trees present.
1994	The western portion of the site remains the same as the previous aerial photograph, with the land surrounding the buildings being grassed. However, the dwelling on the eastern portion of the site has been demolished, with the area being concreted and a service station being established.
2002	The site remains the same as previous aerial photograph.
2014	The site remains the same as the previous aerial photograph.

4.2 SURROUNDING LANDS HISTORICAL AERIAL PHOTOGRAPHY REVIEW

As part of the Site Land Titles Information / Historic Aerial Review, an assessment of surrounding land uses using historical aerial photographs sourced from NSW Land and Property Information was carried out. A summary of the pertinent information identified at surrounding land parcels from the reviewed photographs is presented in **Table 4-3**.

Table 4-3 Summary of Aerial Photograph Review

Aerial Photograph	Surrounding land uses based on historical aerial photographs
1930	The site is surrounded by individual residential dwellings to the north, south, east and west. The Railway Corridor is adjacent the property north, while Strathfield Station is established to the south-east. North-west of the site where the railway forks in two directions, the land in between is consists of undeveloped land and saw-tooth warehouses and factories along the rail line.
1943	Surrounding land use has remained the same as per previous aerial photograph.
1951	The surrounding land use remains predominantly the same as per previous aerial photograph, with the exceptions of more industrial development evident north-west of the site within the area in between the fork in the railway line. There also appears to be industrial / commercial buildings present north-west of the site adjacent the southern-most railway line.

Aerial Photograph	Surrounding land uses based on historical aerial photographs
1986	The surrounding land use remains predominantly the same as per previous aerial photograph, with the exception of the commercial buildings and Strathfield Plaza being evident south-west of the site. North-west of the site, the area in between the fork in the rail line has been fully developed into and industrial area, with warehouse / factory structures being present. The land directly west of the site, adjacent Pilgrim Avenue appears to have been redeveloped with long two-storey apartment dwellings; with the northernmost area of this block is cleared land. North of the site, Concord Golf Course is evident.
1994	Surrounding land use remains predominantly the same as per previous aerial photograph, with the exception of a multi-storey commercial building evident directly east of the site, adjacent Raw Square. There has also been an additional long rectangular apartment building been constructed on the northernmost section of the block directly west of the site (along the railway corridor boundary). North-west of the site, adjacent Homebush Bay the construction of Sydney Olympic Park is underway.
2002	Directly south-east of the site the area surrounding Strathfield Plaza has been redeveloped with multi-storey mixed-use apartment buildings. South-west and north of the site still remains heavily occupied by individual residential dwellings. North-west of the site along the southernmost rail line, the previous industrial / commercial buildings have been redeveloped with the construction of multiple multi-storey apartment buildings. North-west of the site Sydney Olympic Park has been completed.
2014	The surrounding land use remains predominantly the same as per previous aerial photograph, with the exception of the area north of the site adjacent the railway line has been cleared and grassed.

4.3 COUNCIL INFORMATION

A request to access Strathfield Councils site history records was initiated on 16 January 2018, however Council approval was still pending at the time of writing. Should pertinent information be identified upon receipt of Council records, an addendum to the PSI will be prepared and issued.

4.4 SAFEWORK NSW DANGEROUS GOODS REGISTER RECORDS

A search of WorkCover NSW Authority records relating to the site was requested on 16 January 2018 by EI, on behalf of the Client. Correspondence (verbal) dated 1 February 2018 from the Dangerous Goods Licensing Section, confirmed that SafeWork NSW had a file for the service station at 9-11 Albert Road. However, at the time of reporting EI had not received the document. Upon receipt of the SafeWork record, an addendum to the PSI will be prepared and issued.

4.5 EPA ONLINE RECORDS

4.5.1 Contaminated Land - Record of Notices under Section 58 of CLM Act (1997)

An on-line search of the contaminated land public record of EPA Notices was conducted on 17 January 2018.

The contaminated land public record is a searchable database of:

- Orders made under Part 3 of the *Contaminated Land Management Act 1997* (CLM Act);
- Approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority (EPA) has not been revoked;

- Site audit statements provided to the NSW EPA under section 53B of the CLM Act that relate to significantly contaminated land;
- Where practicable, copies of anything formerly required to be part of the public record; and
- Actions taken by NSW EPA under section 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985* (EHC Act).

The search confirmed that the site known as 2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW and lands in its close proximity (within 500 m), are not subject to any regulatory notices issued by the NSW EPA.

4.5.2 List of NSW contaminated sites notified to EPA

A search through the List of NSW Contaminated Sites notified to the EPA under Section 60 of the CLM Act 1997 was conducted on 17 January 2018. This list is maintained by NSW EPA and includes properties on which contamination has been identified. Not all notified land is deemed to be impacted significantly enough to warrant regulation by the NSW EPA.

The search confirmed that the site known as 2-6 Pilgrim Avenue & 9-14 Albert Road, Strathfield NSW and lands within close proximity (500 m radius) was not subject to any regulatory notices issued by the NSW EPA.

4.5.3 POEO Public Register

A search of the Protection of the Environment Operations (POEO) Act public register was conducted on 17 January 2018. The public register contains records related to environmental protection licences, applications, notices, audits, pollution studies, and reduction programmes. The search for Strathfield identified one licence held within close proximity to the site (approx. 500 m radius) in that area. The POEO Licence was held by HCOA Operations (Australia) Pty Limited (approx. 540 m to SE) for Hazardous, Industrial or Group A Waste Generation or Storage from 2000 to 2007.

4.6 OTHER INFORMATION SOURCES

Documentation prescribed under the *Protection of the Environment (Underground Petroleum Storage Systems) Regulation 2014,* required to be held by site operators of service station sites*,* including information relating to the sites system for detecting and monitoring leaks, groundwater monitoring wells installations and testing program, the facilities Environment Protection Plan (EPP), and information pertaining to record keeping, and reporting of leaks, has not been supplied to EI.

In addition, other available environmental reports prepared for the site have also not been supplied to EI for review. The provision of such documentation would assist with understanding the environmental condition of soils and groundwater on the service station site (9-11 Albert Road).

5. CONCEPTUAL SITE MODEL

In accordance with NEPM (2013) *Schedule B2 – Guideline on Site Characterisation* and to aid in the assessment of data collection for the site, EI developed a preliminary conceptual site model (CSM) assessing plausible pollutant linkages between potential contamination sources, migration pathways and receptors. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation.

5.1 POTENTIAL CONTAMINATION SOURCES

On the basis of the PSI findings the potential contamination source is:

- Unknown type and concentration of contaminants within imported fill soils beneath site structures and in fill areas;
- Impacts from spills and leaks from onsite vehicles, machinery, chemicals / chemicals stores, and paint use;
- Weathering of building structures (i.e. painted surfaces, metallic structures, cement-fibre sheeting, etc.);
- Hazardous materials, including potential asbestos-containing materials (ACM) from building products used onsite; and
- Possible impacts historic use of pesticides beneath site structures and in garden areas;
- Impacts from uncontrolled demolition of historic site structures;
- Potential contamination from localised storages; and
- Potential impacts to soils and groundwater from sub-surface (UST and UPSS) and above ground infrastructure onsite. Including spills during removal and refill of hazardous chemicals and leaks of hazardous chemicals around joints in chemical lines from fill point to tank and from tank to release points (9 Albert Road, Strathfield);
- Unknown type and concentration of contaminants within groundwater;
- Migration of contamination onto site from adjoining properties and unknown contamination sources.

5.2 CONTAMINANTS OF POTENTIAL CONCERN

Based on the findings of the PSI, the chemicals of potential concern (COPC) at the site are considered to be:

- Soil - heavy metals (HM), total recoverable hydrocarbons (TRH), the monocyclic aromatic hydrocarbon compounds *benzene, toluene, ethyl-benzene* and *xylenes* (BTEX), polycyclic aromatic hydrocarbons (PAH), organochlorine and organophosphorus pesticides (OCP/ OPP), polychlorinated biphenyls (PCB), volatile organic compounds (VOCs), and asbestos.
- Groundwater – HM, TRH, BTEX, PAHs, and VOCs.

5.3 POTENTIAL SOURCES, RECEPTORS AND EXPOSURE PATHWAYS

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this assessment are summarised in **Table 5-1.**

Table 5-1 Conceptual Site Model

Impacted Media	Chemicals of Potential Concern	Transport mechanism	Exposure pathway	Potential receptor
Soil	HM, TRH, PAH, BTEX, OCP, OPP, PCB, and asbestos	Disturbance of surficial and subsurface soils during site redevelopment, future site maintenance and future use of the site post redevelopment	▪ Ingestion; ▪ Dermal contact; ▪ Inhalation of asbestos fibres and dust particulates	▪ Current commercial and residential occupants at the site ▪ Construction and maintenance workers ▪ End users of the site post redevelopment
		Atmospheric dispersion from soil to indoor and outdoor air spaces	▪ Inhalation of asbestos fibres and dust particulates	
	BTEX and TRH	Volatilisation of contamination from soil and diffusion to indoor air spaces	▪ Inhalation of vapours from VOC impacted soil.	
	HM, TRH, PAH, BTEX, OCP, OPP	Plant uptake of contamination present in root zone	▪ Plant uptake	▪ Future ecological receptors (e.g. site vegetation post redevelopment)
Groundwater	HMs, TRH, BTEXN, phenols and VOCs	Interception of water table during excavation Potential seepage into deep basement intercepting water table (both on site and off site)	▪ Dermal contact; ▪ Ingestion; ▪ Inhalation of vapours	▪ Construction and maintenance workers ▪ Basement users post redevelopment ▪ Offsite users of constructed basements that are not water tight
		Migration of dissolved phase impacts in groundwater	▪ Contaminants arriving at receiving surface water bodies could lead to ingestion and dermal contact	▪ Aquatic ecosystems ▪ Recreational water users
	BTEXN and VOCs	Volatilisation of contamination from groundwater to indoor or outdoor air spaces	▪ Inhalation of vapours	▪ End users of the site
Building Fabrics	Lead, PCB and asbestos	Release of hazardous materials during uncontrolled demolition of building fabrics	▪ Ingestion; ▪ Dermal contact; ▪ Inhalation of airborne contaminants	▪ Construction and maintenance workers

5.4 DATA GAPS

Based on the CSM derived for the site and the above qualitative assessment of risks, the following data gaps have been identified, which are considered to warrant closure by limited additional investigation:

- The presence of onsite contamination from identified sources (listed in **Section 5.2**) require confirmation; and
- The degree and extent of onsite contamination.

6. SAMPLING, ANALYTICAL AND QUALITY PLAN (SAQP)

The SAQP plays a crucial role in ensuring that the data collected as part of this, and ongoing environmental works carried out at the site are representative, and provide a robust basis for site assessment decisions. This SAQP includes the following:

- Data quality objectives, including a summary of the objectives of the ESA;
- Investigation methodology including media to be sampled, details of analytes and parameters to be monitored and a description of intended sampling points;
- Sampling methods and procedures;
- Field screening methods;
- Analysis Methods;
- Sample handling, preservation and storage; and
- Analytical QA/QC.

6.1 DATA QUALITY OBJECTIVES (DQO)

In accordance with the US EPA (2006) *Data Quality Assessment* and EPA (2017) *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme*, the process of developing Data Quality Objectives (DQO) was used by the EI assessment team to determine the appropriate level of data quality needed for the specific data requirements of the project. The DQO process that was applied for this assessment is documented in **Table 6-1**.

Table 6-1 Summary of Project Data Quality Objectives

DQO Steps	Details	Comments (changes during investigation)
1. State the Problem Summarise the contamination problem that will require new environmental data, and identify the resources available to resolve the problem; develop a conceptual site model	The site has been historically been residential and commercial properties, including use as service station. This assessment is required as part of a planning proposal to investigate the potential for contamination to be present at the site by the completion of a qualitative appraisal of available historical site information, and limited intrusive investigation of soils and groundwater. Historical information and site inspection identified the potential for contamination to be present in site soil and/or groundwater, contributed by various potential sources listed in **Section 5-2**. Based on the site history information collected, a preliminary conceptual site model of the site has been developed, and is present in **Section 5**.	-
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that need to be made on the contamination problem and the new environmental data required to make them	Based on the objectives outlined in **Section 1.4,** the following decisions are identified: • Has the site been adequately characterised with sufficient and appropriate sampling coverage (vertical and lateral) to assess for the presence of potential contamination sources? • Has the nature, source and extent of any onsite impacts (soil and/or vapour) been defined? • What influence do site-specific, geologic conditions have on the fate and transport of any impacts that may be identified? • Does the degree of impact coupled with the fate and transport of identified contaminants represent an unacceptable risk to identified human and/or environmental receptors on or offsite? Does the collected data provide sufficient information to allow the selection and design of an appropriate remedial strategy, assuming remedial action is necessary? If not, what are the remaining data gaps requiring closure?	-

DQO Steps	Details	Comments (changes during investigation)
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision and specify which inputs require new environmental measurements	Inputs to the decision making process include: • Proposed development and land use; • Aerial photographs, historical land title records, council records; • Areas of concern identified during the site inspection, prior to limited intrusive investigations; • National (NEPC, 2013) and State-based (NSW EPA, various) environmental guidelines; • Soil samples and observations obtained from an intrusive investigations at five locations, and at depths deemed appropriate for investigation purposes (or prior auger refusal); • Installation of three groundwater monitoring wells; • Investigation sampling to verify the presence of onsite contamination and to evaluate the potential risks to sensitive receptors; and • Laboratory analysis of selected soil and groundwater samples for COPCs presented in **Section 5.2**. At the end of the assessment, a decision must be made regarding whether the environmental conditions are suitable for the proposed redevelopment, or if additional investigation or remedial works are required to make the site suitable.	-
4. Define the Boundaries of the Study Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision	Lateral – defined by the cadastral site boundaries. Vertical – from the existing ground level to a maximum depth of 9 mBGL, and underlying water-bearing zones. Temporal – results are valid on the day of data and sample collection and remain valid as long as no changes occur on site or contamination (if present) does not migrate on site or on to the site from off-site sources.	Lateral – Inability to access areas of the site due the location of buildings and no access being granted for the services station, restricting drilling rig access, as detailed in **Section 6.2**. Vertical – the maximum depth achieved by on-site boreholes was 5.2 m. While groundwater monitoring wells were installed, monitoring wells were dry at the time of sampling.

DQO Steps	Details	Comments (changes during investigation)
5. Develop the Analytic Approach (Develop a decision rule) To define the parameter of interest, specify the action level, and integrate previous DQO outputs into a single statement that describes a logical basis for choosing from alternative actions	The decision rules for the investigation were: • If the concentrations of contaminants in the soils data exceed the land use criteria; then assess the need to further investigate the extent of impacts onsite. • Decision criteria for QA/QC measures are defined by the Data Quality Indicators (DQI) in **Table 6-2**.	-
6. Specify Performance or Acceptance Criteria (Specify limits on decision errors) Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data	Based on the qualitative data gathered via site history review and site walkover observations, a non-statistical judgemental sampling design was selected for performing this PSI. As the site investigation area is predominantly residential / commercial, areas subject to modification or development have been identified as areas of environmental concern (AEC) based identified contamination sources, known contaminants of concern, and professional judgement. Where there is uncertainty regarding the quality of the data obtained via the adoption of the judgemental sampling design in this PSI, further investigation by systematic sampling will be performed, and include hypothesis testing of the data collected by statistical analysis.	-

DQO Steps	Details	Comments (changes during investigation)
7. Develop the Detailed Plan for Obtaining Data (Optimise the design for obtaining data) Identify the most resource-effective sampling and analysis design for general data that are expected to satisfy the DQOs	• Written instructions will be issued to guide field personnel in the required fieldwork activities. • Soil samples will be collected from five targeted soil sampling locations, selected based accessible site areas and areas of potential environmental concern. • An upper soil profile sample will be collected at each borehole location and tested for chemicals of concern, to assess the environmental condition of a fill layer (if present), and for potential impacts from historical, above-ground activities. Further sampling would also be performed in deeper soil layers. These samples would be selected for testing based on field observations (including visual and olfactory evidence, as well as soil vapour screening in headspace samples), and will also be used to characterise subsurface stratigraphy. • Three groundwater monitoring wells are proposed to characterise groundwater quality within the site. • Representative soil samples will be analysed for the COPC detailed in **Section 5.2**. to allow characterisation of soils; and • Review of the results will be undertaken to determine if further excavation and additional sampling is warranted. Additional investigations would be considered to be warranted where soil concentrations are found to exceed remediation criteria endorsed by the NSW EPA, relevant to the proposed land use(s).	Due to the shallow depths of borehole refusal on or in underlying rock on the site, groundwater monitoring wells were installed dry, for the potential of encountering groundwater.

6.2 DATA QUALITY INDICATORS

To ensure that the investigation data collected was of an acceptable quality, the investigation data set was assessed against the data quality indicators (DQI) outlined in **Table 6-2**, which related to both field and laboratory-based procedures. The assessment of data quality is discussed in **Section 8**.

Table 6-2 Data Quality Indicators

Data Quality Objective	Data Quality Indicator	Acceptable Range
Accuracy	Field – Trip blank (laboratory prepared) Laboratory – Laboratory control spike and matrix spike	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Precision	Field – Blind replicate and spilt duplicate Laboratory – Laboratory duplicate and matrix spike duplicate	< 30 % relative percentage difference (RPD [%]) Prescribed by the laboratories
Representativeness	Field – Trip blank (laboratory prepared) Laboratory – Method blank	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Completeness	Completion (%)	-

7. ASSESSMENT METHODOLOGY

7.1 SAMPLING RATIONALE

With reference to the CSM described in **Section 5**, soil and groundwater investigation works were planned in accordance with the following rationale:

- Sampling fill and natural soils from five borehole locations located systematically across the site using an approximate grid-based sampling pattern to characterise in-situ soils;
- Construction of three (3) groundwater monitoring wells to a maximum depth of 9 mBGL (or refusal) for groundwater characterisation;
- Sampling groundwater during a single groundwater monitoring event (GME) at three monitoring wells located up gradient and down gradient of anticipated groundwater flow to assess for potential groundwater impacts; and
- Laboratory analysis of representative soil and groundwater samples for the identified chemicals of concern.

7.2 INVESTIGATION CONSTRAINTS

A number of constraints were encountered during the investigation works, and detailed below:

- Limited site access for the drilling rig due to the site being occupied by multiple dwellings and associated car parking, and site buildings being used for commercial business activities at 9 Albert Road, with no access being given on the day of sampling;
- Due to the shallow depths of borehole refusal on or in underlying rock on the site, the groundwater monitoring wells were installed dry. Based on previous investigations in the surrounding areas groundwater is expected to be encountered around 7 mBGL. At the time of groundwater sampling, the groundwater monitoring wells were reported to be dry; and
- Inability to access areas of the site due to heavy vegetation and steep gradients which restricted drilling rig access.

7.3 ASSESSMENT CRITERIA

The assessment criteria proposed for this project are outlined in **Table 7-1**. These were selected from available published guidelines that are endorsed by national or state regulatory authorities, with due consideration of the exposure scenario that is expected for various parts of the site, the likely exposure pathways and the identified potential receptors.

Table 7-1 Adopted Investigation Levels for Soil and Groundwater

Environmental Media	Adopted Guidelines	Rationale
Soil	NEPM, 2013 Soil HILs, EILs, HSLs, ESLs & Management Limits for TPHs	**Soil Health-based Investigation Levels (HILs)** All samples are to be assessed against the NEPM 2013 HIL-B thresholds for residential with minimal opportunities for soil access. **Ecological Investigation Levels (EILs)** All samples are to be assessed against the NEPM 2013 EILs for arsenic,

Environmental Media	Adopted Guidelines	Rationale
		copper, chromium (III), nickel, lead, zinc, DDT and naphthalene, which have been derived for protection of terrestrial ecosystems. **Soil Health-based Screening Levels (HSLs)** The NEPM 2013 HSL-B thresholds for residential with minimal opportunities for soil access and HSL-D thresholds for industrial/commercial sites with access to soils for vapour intrusion would be applied to assess for potential human health impacts from residual vapours resulting from petroleum, BTEX, naphthalene and VOCs. Soils asbestos results to be assessed against the NEPM 2013 Soil HSL thresholds for "all forms of asbestos". **Ecological Screening Levels (ESLs)** All samples are to be assessed against the NEPM 2013 ESLs for selected petroleum hydrocarbons & TRH fractions for protection of terrestrial ecosystems. **Management Limits for Petroleum Hydrocarbons** Should the ESLs and HSLs be exceeded for petroleum hydrocarbons, soil samples would also assessed against the NEPM 2013 Management Limits for the TRH fractions F1 – F4 to assess propensity for phase-separated hydrocarbons (PSH), fire and explosive hazards & adverse effects on buried infrastructure.
Groundwater	NEPM, 2013 GILs for Marine Waters	**Groundwater Investigation Levels (GILs) for Fresh Water** NEPM 2013 provides GILs for typical, slightly-moderately disturbed aquatic ecosystems, which are based on the ANZECC & ARMCANZ 2000 Trigger Values (TVs) for the 95% level of protection of aquatic ecosystems; however, the 99% TVs were applied for the bio-accumulative metals cadmium and mercury. The marine criteria were considered relevant as the closest, potential surface water receptor was an unnamed watercourse draining to Oyster Bay, located 170 m south-west of the site and understood to be tidally influenced.
	NEPM, 2013 Groundwater HSLs for Vapour Intrusion	**Health-based Screening Levels (HSLs)** The NEPM 2013 groundwater HSLs for vapour intrusion were used to assess for potential human health impacts from residual vapours resulting from petroleum, BTEX and naphthalene impacts. HSL-B thresholds for residential with minimal opportunities for soil access were applied for groundwater.
	NEPM, 2013 GILs for Drinking purposes	**Drinking Water GILs** The NEPM (2013) GILs were adopted relating to direct contact/ingestion of groundwater with consideration to construction workers during development, adjacent basement users, and any unregistered groundwater wells. These were based on the Australian Drinking Water Guidelines (Ref. NHMRC, 2011).

For the purposes of this investigation, the adopted soil assessment criteria are referred to as the Soil Investigation Levels (SILs) and the adopted groundwater assessment criteria are referred to as the Groundwater Investigation Levels (GILs). SILs and GILs are presented alongside the analytical results in the corresponding summary tables, which are discussed in **Section 9**.

7.4 SOIL INVESTIGATION

The soil investigation works conducted at the site are described in **Table 7-2**. Test bore locations are illustrated in **Figure 2**.

Table 7-2 Summary of Soil Investigation Methodology

Activity/Item	Details
Fieldwork	The site investigation was conducted on 23 January 2018; and comprised of five test bores, with five fill samples.
Drilling Method & Investigation Depth	Boreholes BH101M – BH105M were drilled using an auger drill with a TC-bit on a ute mounted rig. Investigation depths ranged between 0.0 – 5.2 mBGL and sample depths ranged between 0.2 – 2.9 mBGL.
Soil Logging	Drilled soils were classified in the field with respect to lithological characteristics and evaluated on a qualitative basis for odour and visual signs of contamination. Soil classifications and descriptions were based on Unified Soil Classification System (USCS) and Australian Standard (AS) 4482.1-2005. Bore logs are presented in **Appendix E**.
Field Observations (including visual and olfactory signs of potential contamination)	A summary of field observations is provided, as follows: • No odours were noted within each of the boreholes; • No visual signs of contamination were noted in fill samples, apart from ash noted in fill taken from BH102; and No fragments of asbestos containing materials (ACMs) were visually identified.
Soil Sampling	• Soil samples were collected using a dry grab method (unused, dedicated nitrile gloves) & placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars. • Blind field duplicates was separated from the primary samples and placed into glass jars. • A small amount of duplicate was separated from all fill samples and placed into a zip-lock bag for asbestos analysis.
Decontamination Procedures	*Drilling Equipment* - The drilling rods were decontaminated between sampling locations with potable water until the augers were free of all residual materials. *Sampling Equipment* - Sampling gloves were replaced between sampling locations.
Sample Preservation	Samples were stored in a chilled (ice-blocks) chest, whilst on-site and in transit to the laboratory. All samples were submitted and analysed within the required holding period, as documented in laboratory reports discussed in a later section.
Management of Soil Cuttings	Soil cuttings were used as backfill for completed boreholes.
Quality Control & Laboratory Analysis	A number of soil samples were submitted for analysis of previously-identified COPC by SGS Laboratories (SGS). QA/QC testing comprised intra-laboratory duplicates ('field duplicates') tested blind by SGS and an inter-laboratory field duplicate tested blind by Envirolab Services (Envirolab). All samples were transported under strict Chain-of-Custody (COC) conditions and COC certificates and laboratory sample receipt documentation were provided to EI for confirmation purposes, as discussed in **Section 9**.

7.5 GROUNDWATER INVESTIGATION

The groundwater investigation works conducted at the site are described in **Table 7-3**. Monitoring well locations are illustrated in **Figure 2**.

Table 7-3 Summary of Groundwater Investigation Methodology

Activity/Item	Details
Fieldwork	Groundwater monitoring wells were installed dry on 23 January 2018; whereas, water level gauging, well purging, field testing and groundwater sampling was unable to be conducted on 29 January 2018 due to wells still being dry.
Well Construction	Three test bores were converted to groundwater monitoring wells as follows: • One 5.0 m deep, onsite, down gradient well identified as BH101M; • One 4.3 m deep, onsite, down gradient well identified as BH104M; and • One 4.9 m deep, onsite, up gradient well identified as BH105M. Drilled by HartGeo using a track-mounted, Hanjin mechanical drilling rig, fitted with solid flight augers. Well construction details are tabulated in **Table 8-2** and documented in the bore logs presented in **Appendix E.** Well construction was in general accordance with the standards described in NUDLC, 2012 and involved the following: • 50 mm, Class 18 uPVC, threaded, machine-slotted screen and casing, with slotted intervals in shallow wells set to screen to at least 500 mm above the standing water level to allow sampling of phase-separated hydrocarbon product, if present; • Base and top of each well was sealed with a uPVC cap; • Annular, graded sand filter was used to approximately 300mm above top of screen interval; • Granular bentonite was applied above annular filter to seal the screened interval; • Cuttings backfill just below ground level; and • Surface completion comprised of a -0.5 m plastic J-cap closing the well, with a gatic cover at ground level.
Well Development	Well development was unable to be conducted following installation of monitoring wells as wells were dry.
Well Gauging & Groundwater Flow Direction	A single GME was unable to be conducted 29 January 2018, due to the wells remaining dry. The direction of groundwater flow in the aquifer was inferred to be in a north easterly direction towards Canada Bay and into Parramatta River.

8. DATA QUALITY ASSESSMENT

The assessment of data quality is defined as the scientific and statistical evaluation of environmental data to determine if the data meets the objectives for the project (US EPA 2006). Data quality assessment included an evaluation of the compliance of the field sampling, field and laboratory duplicates and laboratory analytical procedures and an assessment of the accuracy and precision of these data from the laboratory quality control measurements. The findings of the data quality assessment in relation to the current investigation at the site are discussed in detail in **Appendix I**.

The QC measures generated from the field sampling and laboratory analytical program are summarised in **Table 8-1**:

Table 8-1 Quality Control Process

Data Quality	Control	Conformance [Yes, Part, No]	Report Sections
Preliminaries	Data Quality Objectives established	Yes	See DQO/DQI
Field work	Suitable documentation of fieldwork observations including borehole logs, sample register, field notes, calibration forms	Yes	See Appendices
Sampling Plan	Use of relevant and appropriate sampling plan (density, type, and location)	Yes	See sample rationale
	All media sampled and duplicates collected	Yes	Soil vapour not required
	Use of approved and appropriate sampling methods (soil, groundwater, air quality)	Yes	See methodology
	Preservation and storage of samples upon collection and during transport to the laboratory	Yes	See methodology
	Appropriate Rinsate, Field and Trip Blanks taken	Yes	See methodology
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	See laboratory reports
Laboratory	Sample holding times within acceptable limits	Yes	See laboratory QA
	Use of appropriate analytical procedures and NATA-accredited laboratories	Yes	See laboratory report
	LOR/PQL low enough to meet adopted criteria	Yes	See laboratory appendix
	Laboratory blanks	Yes	See laboratory QA/QC
	Laboratory duplicates	Yes	See laboratory QA/QC
	Matrix spike/matrix spike duplicates (MS/MSDs)	Yes	See laboratory QA/QC
	Surrogates (or System Monitoring Compounds)	Yes	See laboratory QA/QC

Data Quality	Control	Conformance [Yes, Part, No]	Report Sections
	Analytical results for replicated samples, including field and laboratory duplicates and inter-laboratory duplicates, expressed as Relative Percentage Difference (RPD)	Yes	See QA Tables Appendix I
	Checking for the occurrence of apparently unusual or anomalous results, e.g. laboratory results that appear to be inconsistent with field observations or measurements	Yes	See Appendix I.
Reporting	Report reviewed by senior staff to assess project meets desired quality, EPA guidelines and project outcomes.	Yes	See document control

8.1 QUALITY OVERVIEW

On the basis of the field and analytical data validation procedure employed, the overall quality of the analytical data produced for the site was considered to be of an acceptable standard for interpretive use and preparation of a conceptual site model (CSM).

9. RESULTS

9.1 SOIL INVESTIGATION RESULTS

9.1.1 Site Geology and Subsurface Conditions

The general site geology encountered during the drilling of the soil investigation boreholes may be described as a layer of fill/topsoil overlying clays and weathered shales. The geological information obtained during the investigation is summarised in **Table 9-1** and borehole logs from these works are presented in **Appendix E**.

Table 9-1 Generalised Subsurface Profile (mBGL)

Layer	Description	Depth to top & bottom of layer (mBGL)
Concrete	Concrete Hardstand	0.0 – 0.2
Fill	Silty clay: low to medium plasticity, brown to dark brown and light grey to grey, with sub-angular to angular gravels, rootlets, ash, moist and no odour.	0.0 – 1.0
	Silt: fine grained, brown to dark brown, with small sub-angular to angular gravels, dry and no odour.	0.15 -1.8
Natural	Clay: high plasticity, red to orange clay, with fine brown silt, moist and no odour.	0.8 – 4.3
	Clay: medium to high plasticity, light grey, moist and no odour.	2.5 – 5.2
Residual Soils	Weathered claystone and laminites; fine to medium grained, red, with sub-angular gravels and no odour,	1.8 – 2.5
	Silty Clay: high plasticity, red to orange clay, with fine brown to light grey silt, trace rootlets, moist and no odour.	0.5 – 2.0
Bedrock	Shale: highly weathered dark brown to grey.	2.5 – 4.9

9.1.2 Field Observations

Soil samples were obtained from the test bores at depths ranging between 0.3 to 2.9 mBGL. All examined soil samples were evaluated on a qualitative basis for odour and visual signs of contamination (e.g. hydrocarbon odours, oil staining, petrochemical filming, asbestos fragments, ash, and charcoal) and the following observations were noted:

- No odours were noted within each of the boreholes;
- No visual signs of contamination were noted in fill samples, apart from ash noted in fill taken from BH102; and
- No fragments of asbestos containing materials (ACMs) were visually identified.

9.2 GROUNDWATER INVESTIGATION RESULTS

9.2.1 Monitoring Well Construction

A total of three groundwater monitoring wells were installed across the site. Well construction details for the installed groundwater monitoring wells are summarised in **Table 9-2** and presented in the bore logs attached in **Appendix E**.

Table 9-2 Monitoring Well Construction Details

Well ID	Bore Depth (mBGL)	Screen Interval (mBGL)	Lithology Screened
BH101M	5.2	2.0 – 5.0	Clay
BH104M	4.3	1.3 – 4.3	Clay
BH105M	4.9	1.9 – 4.9	Clay and Shale

Notes:
[1] mBGL - metres below ground level.
[2] L - Litres

9.2.2 Field Observations and Water Test Results

Due to refusal in bedrock, groundwater was not encountered during the time of drilling. Hence, the monitoring wells were installed dry, before being checked a week later (29 January 2018). However, the wells were still dry, thus a single GME was not able to be conducted. Based on previous investigations EI is of the understanding that groundwater is generally encountered around 7 mBGL in surrounding areas.

9.3 LABORATORY ANALYTICAL RESULTS

9.3.1 Soil Analytical Results

A summary of laboratory results showing test sample quantities, minimum/maximum analyte concentrations and samples found to exceed the SILs, is presented in **Table 9-3**. More detailed tabulations of results showing the tested concentrations for individual samples alongside the adopted soil criteria are presented in **Table T1** at the end of this report. Completed documentation used to track soil sample movements and laboratory receipt (i.e. COC and SRA forms) are copied in **Appendix F** and all laboratory analytical reports for tested soil samples are presented in **Appendix G**.

Table 9-3 Summary of Soil Analytical Results

No. of primary samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample locations exceeding investigation levels
Heavy Metal				
11	Arsenic	<1	14	None
11	Cadmium	<0.3	0.6	None
11	Chromium (Total)	6	31	None
11	Copper	4	140	Samples exceeding adopted EIL: BH101_0.3-0.4 (120 mg/kg); and BH102_0.3-0.4 (140 mg/kg)
11	Lead	22	2,800	Samples exceeding adopted HIL-B: BH102_0.3-0.4 (2,800 mg/kg) Samples exceeding EPA (2014) Waste Classification Guidelines: BH101_0.3-0.4 (530 mg/kg); BH104_0.3-0.4 (350 mg/kg); and BH102_1.0-1.1 (110mg/kg)
11	Mercury	<0.05	0.43	None
11	Nickel	0.8	9.7	None
11	Zinc	9.1	190	Samples exceeding adopted EIL: BH102_0.3-0.4 (190 mg/kg)
Hydrocarbons				
11	TRH F1	<25	<25	None
11	TRH F2	<25	<50	None
11	TRH F3	<90	<100	None
11	TRH F4	<100	<120	None
12	Benzene	<0.1	<0.2	None
12	Toluene	<0.1	<0.5	None
12	Ethyl benzene	<0.1	<1	None
12	Total xylenes	<0.3	<1	None
9	Benzo(α)pyrene	<0.1	0.7	None
9	Naphthalene	<0.1	<0.1	None
Pesticides				
5	Total OCP	<1	<1	None
5	Total OPP	<1.7	<1.7	None
PCBs				
5	Total PCBs	<1	<1	None
Asbestos				
5	Asbestos	No asbestos detected	No asbestos detected	None

Heavy Metals

With reference to **Table T1**, the majority tested heavy metals concentrations were below the health based SILs. However, lead (Pb) exceeded human investigation levels (HILs) within the following tested sample BH102_0.3-0.4 (2,800 mg/kg).

The derived ecological investigation level (EIL) for the heavy metals were not exceeded in tested samples, with the exceptions of BH102_0.3-0.4 (2,800 mg/kg) exceeding lead criteria (1,200 mg/kg); BH101_0.3-0.4 (120 mg/kg) and BH102_0.3-0.4 (140 mg/kg) exceeding copper criteria (110 mg/kg); and BH102_0.3-0.4 (190 mg/kg) exceeding zinc criteria (145 mg/kg).

TRHs

As shown in **Table T1**, total recoverable hydrocarbons (TRH) concentrations were all below the corresponding NEPM 2013 health-based criteria.

The ecological screening level (ESL) and EIL's were not exceeded within any of the samples tested for TRH.

BTEX

BTEX compounds were below the corresponding SILs and EILs, as shown in **Table T1**.

PAHs

As summarised in **Table T1** PAH concentrations were all below the health based SIL's.

OCPs, OPPs and PCBs

With reference to **Table T1**, no detectable concentration of any of the screened OCP, OPP, and PCB compounds was identified in any of the tested samples. All laboratory PQLs were also within the corresponding SILs.

Asbestos

As summarised in **Table T1**, Asbestos was not identified in any locations across the site.

10. SITE CHARACTERISATION

10.1 UNDERGROUND PETROLEUM STORAGE SYSTEM

Verbal confirmation from SafeWork NSW (dated 17 January 2018) identified the presence of UPSS's on site at the service station, located at 9-11 Albert Road. However, details of the UPSS's on site were not made available to EI at the time of reporting. Visual evidence of fill points were noted at the service station located on the south-eastern portion of the site, evident in **Appendix C, Photograph 25**.

During the investigation EI was unable to gain access to the service station; hence the contamination status of the site (9-11 Albert Road) remains unknown. In light of this limitation, and the inherent risks associated with UPSS and resulting contamination (soil and groundwater), further intrusive soil investigations, including the installation of groundwater wells will be required to evaluate potential contamination associated with this source.

As the proposed development will involve bulk excavation and construction of a multi-level basement car-park, it is envisaged that USTs and associated infrastructure will require decommissioning and removal. This process is to be conducted in accordance with the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008* (DECCW, 2009). It is recommended a Remedial Action Plan (RAP) be prepared, as specified in the *Technical Note: Investigation of Service Station Sites* (EPA, 2014), to establish a sequential process of remediation.

10.2 HEAVY METALS IN SOIL

Elevated concentration of Lead in excess of the adopted health-based criterion (HIL-B) was reported in the sample BH102_0.3-0.4, at 2,800 mg/kg. Testing of the deeper soil sample BH102_1.0-1.1 found the concentration of lead below the laboratory reporting limit, suggesting the lead impact was likely limited to the fill layer.

Based on the proposed development plans BH102 was located within the extent of the basement excavation. However, the lead contaminated fill will likely be removed during the process of bulk excavation. Provided there is no accessible soils in vicinity of this borehole post development, the exceedance of Lead at this location is unlikely to constitute an ongoing health risk to potential receptors post development. Appropriate soil / waste classification and management measures should be implemented during bulk excavation to ensure the contaminated material is disposed in accordance with relevant EPA requirements.

10.3 ASBESTOS RISKS IN SOIL

While no asbestos was detected in laboratory analysed soil samples and soils examined in the field investigation, the overlying surface cover and existing site buildings prevented a detailed inspection of the subsurface profile. In addition, site history and historical aerial photography information revealed former structure in the south-east section of the site was demolished prior 1986. EI consider there is potential for asbestos materials to be present in site filling soils as a result of uncontrolled demolition, if Asbestos-Containing Material (ACM) was used in former structures. Therefore, the potential for buried ACM and friable asbestos to occur in the subsurface fill materials cannot be excluded.

In view of the above, further characterisation of site fill soils will be required. This should, at a minimum, comprise visual inspection of the fill strata by an appropriately qualified person, after site demolition and removal of the existing surface cover. If deemed necessary, additional sampling and laboratory testing of subsurface materials should also be undertaken.

EI note that the existing site structures were constructed at various times, between 1943 to 1994, hence it is possible that ACM is present in current buildings. A Hazardous Materials Survey should be

undertaken prior to site demolition by a suitably qualified person. This should be performed to identify ACM and other potentially hazardous building products, and to enable the development and implementation of appropriate management procedures during demolition (if necessary).

10.4 REVIEW OF CONCEPTUAL SITE MODEL

On the basis of investigation findings the preliminary CSM discussed in **Section 5** was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential onsite and offsite receptors. In light of the limitations of this investigation, a number of data gaps (as outlined in **Section 5.4)** remain that require closure. These include the following:

- Further intrusive investigation of the site to satisfy the sampling density requirements of EPA (1995);
- The quality of soils beneath building structure areas of the site not assessed during this DSI. Provided that the majority of the site is to be bulk excavated for the basement, the supplementary investigation may be carried out as part of the waste classification for excavated materials;
- The condition of soil and groundwater in the immediate vicinity of current and historical UPSS areas, including bowser islands, fill points, and fuel lines;
- The quality of groundwater onsite and down-hydraulic gradient of the service station site, including background groundwater quality migrating onto the site;
- Confirmation of groundwater flow direction by survey of groundwater monitoring wells by a licensed surveyor;
- Potential presence of hazardous materials present within the existing structures; and
- The suitability of retained deep soils (extent as outline on **Figure 2**) to be used for landscaping purposes on the northern perimeter of the site.

11. CONCLUSIONS

The property located at 2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW was the subject of a Preliminary Site Investigation with Limited Sampling. EI understand that this assessment is required to appraise the environmental condition of the site as part of a planning proposal of site for the proposed construction of four adjoining ten to fifteen-storey mixed-use development buildings with a multi-level basement car park covering entire site footprint, and to evaluate potential for on-site contamination associated with current and former land uses.

Based on the findings of this assessment, it is concluded that:

- The site is located approximately 11 km west of Sydney Central Business District (CBD), within the Local Government Area of Strathfield Council (see **Figure 1**). The land parcel is also identified as Lot 100 DP807807, SP8785, Lot 8 & 9 DP15917, Lot A & B DP100558, covering a total area of approximately 4,885m², as depicted in the site plan presented as **Figure 2**;
- Historical records indicate the site appears to have been used for residential and commercial use since at least the early 1930s. The residential apartment dwellings appear to be evident on site from at least 1943, with the service station occupying the eastern side of the site from the mid-1990s. Site use has remained the same since 1990s to present;
- The site and surrounding properties are not reported as being subject to regulation in relation to environmental impacts, as documented in the EPA public registers;
- Verbal confirmation of SafeWork NSW records and visual evidence indicated UPSS's to be located on site at the service station (9-11 Albert Road);
- A request to access Strathfield Council's site history records was initiated on 16 January 2018, however Council approval was still pending at the time of writing. Should pertinent information be identified upon receipt of Council records, an addendum to the PSI will be prepared and issued;
- A site walkover inspection identified the sites current uses consist of residential and commercial purposes, potential asbestos containing material (ACM) was noted within some of the buildings materials, illegal dumping had previously occurred on site and strong effluent odour and water leakage was evident along the driveway at 11-13 Albert Road;
- This CSM model was reviewed and further developed by EI which was then analysed in conjunction to the information gathered from the site walkover inspection and site history review. From this analysis EI considered that the recommendation made by EI of completing an intrusive site investigation was warranted to conduct sampling using systematic sampling regime across the site;
- Soil sampling and analysis were conducted at five test bore locations. The sub-surface layers comprised fill and residual soils overlying clay and weathered shale;
- Results of soil samples collected from soil test boreholes indicated the following:
    - The reported concentration of priority metals were reported below the adopted human and ecological health criteria, with the following exceptions: Lead BH102), Copper (BH101 and BH102), and Zinc (BH102);
    - Total recoverable hydrocarbons (TRH), BTEX, and PAH concentrations were all below the corresponding NEPM 2013 health-based criteria's;
    - No pesticides (OCPs, OPPs) or PCBs were reported; and

- Asbestos was not identified in laboratory analysed soil samples.

- Groundwater was not encountered by EI during the investigation due to refusal in weathered shale. Three shallow groundwater monitoring wells were installed; however they were all reported dry at the time of sampling. Groundwater flow direction was not calculated during this investigation, however, groundwater is anticipated to flow north-east towards Parramatta River; and

- We note that the following data gaps, as outlined in the CSM in **Section 5.4** remain that require closure:

  - Further intrusive investigation of the site to satisfy the sampling density requirements of EPA (1995);

  - The quality of soils beneath building structure areas of the site not assessed during this DSI. Provided that the majority of the site is to be bulk excavated for the basement, the supplementary investigation may be carried out as part of the waste classification for excavated materials;

  - The condition of soil and groundwater in the immediate vicinity of current and historical UPSS areas, including bowser islands, fill points, and fuel lines;

  - The quality of groundwater onsite and down-hydraulic gradient of the service station site, including background groundwater quality migrating onto the site;

  - Confirmation of groundwater flow direction by survey of groundwater monitoring wells by a licensed surveyor;

  - Potential presence of hazardous materials present within the existing structures; and

  - The suitability of retained deep soils to be used for landscaping purposes on the northern perimeter of the site.

Based on the findings from this PSI conducted in accordance with the investigation scope agreed with the Client, and with consideration of the Statement of Limitations (**Section 13**), EI conclude that in light of the site access restrictions and constraints, several data gaps remain that will require closure to satisfactorily characterise the fill soils. In view of the proposed development scope, and currently available information, EI consider that the site can be made suitable for the proposed land use, provided recommendations detailed in **Section 12** are implemented at a future development application stage. It should be noted that this is not required at the planning proposal stage.

12. RECOMMENDATIONS

Based on the findings of this PSI, the following recommendations will be required to be implemented during site redevelopment to confirm the site as being suitable for the proposed development, at a future development application stage:

- Prior to site demolition, carry out a Hazardous Materials Survey on existing site structures to identify potentially hazardous building products that may be released to the environment during demolition;
- Review of available environmental reports previously prepared for the service station site;
- Preparation and implementation of a Remedial Action Plan (RAP), which should:
  - Design supplementary investigations to close the data gaps identified during this investigation;
  - Outline the remediation requirements for UPSS decommissioning, and remediation and validation activities in accordance with the *POEO (UPSS) Regulation 2014* and associated guidance documents, and other contamination that may be identified during data gap closure investigations;
  - Provide the requirements and procedure for waste classification assessment, in order to enable classification of site soils to be excavated and disposed off-site during the proposed basement excavation, in accordance with the *Waste Classification Guidelines* (EPA, 2014); and
  - Provide a SAQP for the validation of remediation activities performed on-site.
- Undertake supplementary investigations, and subsequent remediation and validation works for the site, as outlined in the RAP. EI note that due to current site constrains, the additional investigations and remediation works may be conducted after site demolition when access to areas of environmental concern is made available;
- Any material being removed from site (including virgin excavated natural materials (VENM)) should be classified for off-site disposal in accordance the EPA (2014) *Waste Classification Guidelines*;
- Any material being imported to the site should be assessed for potential contamination in accordance with NSW EPA guidelines as being suitable for the intended use or be classified as VENM; and
- Preparation of a final site validation report by a suitably qualified environmental consultant, certifying site suitability of soils and groundwater for the proposed land use.

13. STATEMENT OF LIMITATIONS

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards. Due to the site-specific nature of soil sampling from point locations, it is considered likely that all variations in subsurface conditions across a site cannot be fully defined, no matter how comprehensive the field investigation program.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from previous assessments conducted on site, regulatory agencies (e.g. Council, EPA), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

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

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

This report was prepared for the above named client and no responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

This report and associated documents remain the property of EI subject to payment of all fees due for this assessment. The report shall not be reproduced except in full and with prior written permission by EI.

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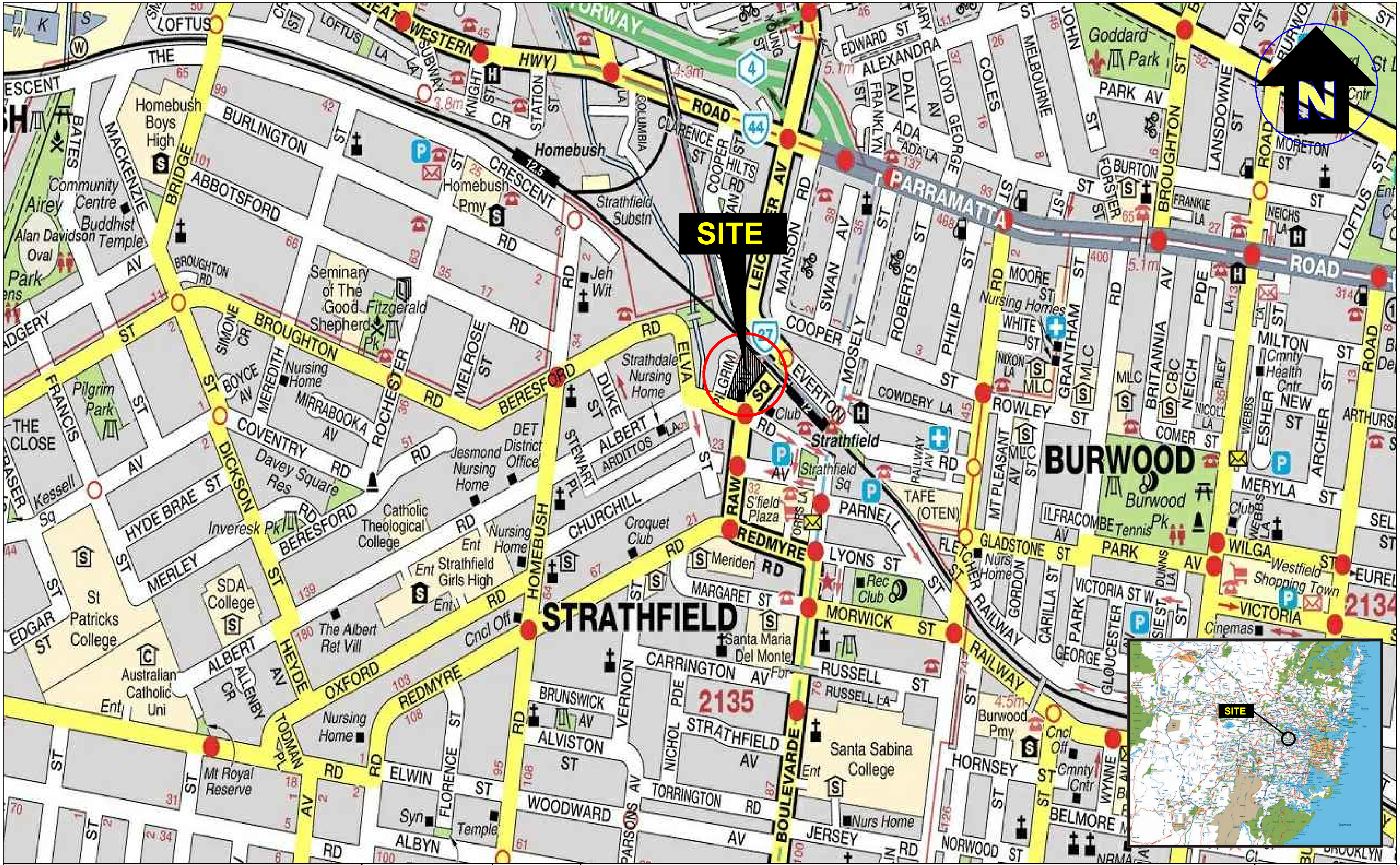
ABBREVIATIONS

ACM	Asbestos-containing materials
ASS	Acid Sulfate Soils
B(α)P	Benzo(α)pyrene
BH	Borehole
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
COC	Chain of Custody
DEC	Department of Environment and Conservation, NSW (see OEH)
DECC	Department of Environment and Climate Change, NSW (see OEH)
DECCW	Department of Environment, Climate Change and Water, NSW (see OEH)
DA	Development Application
DP	Deposited Plan
EIL	Ecological Investigation Levels
EPA	Environment Protection Authority
EMP	Environmental Management Plan
ESL	Ecological Screening Levels
F1	TRH $C_6 – C_{10}$ less the sum of BTEX concentrations (Ref. NEPM 2013, Schedule B1)
F2	TRH $>C_{10} – C_{16}$ less the concentration of naphthalene (Ref. NEPM 2013, Schedule B1)
HIL	Health-based Investigation Level
HMS	Hazardous Materials Survey
HSL	Health-based Screening Level
km	Kilometres
m	Metres AHD Metres Australian Height Datum
mBGL	Metres Below Ground Level
mg/L	Milligrams per litre
µg/L	Micrograms per litre
MW	Monitoring well
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage, NSW (formerly DEC, DECC, DECCW)
OPP	Organophosphorus Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
pH	Measure of the acidity or basicity of an aqueous solution
PQL	Practical Quantitation Limit (limit of detection for respective laboratory instruments)
QA/QC	Quality Assurance / Quality Control
SRA	Sample receipt advice (document confirming laboratory receipt of samples)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
UPSS	Underground Petroleum Storage Systems
UST	Underground Storage Tank
VENM	Virgin Natural Excavated Material
VOCs	Volatile Organic Compounds (specific organic compounds which are volatile)

FIGURES



Drawn:	C.M.	**Convertia P/L** Preliminary Site Investigation 2-6 Pilgrim Avenue & 9-14 Albert Road, Strathfield NSW 2135	Figure: 1
Approved:	N.F.		
Date:	16-01-18		
Scale:	Not To Scale	Site Locality Plan	Project: E23668.E01_Rev0

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

LEGEND

- Approximate site boundary
- Approximate basement boundary
- Approximate UST location
- Approximate groundwater monitoring well location
- Approximate borehole location

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	C.M.
Approved:	N.F.
Date:	24-01-18

Convertia Pty Ltd
Preliminary Site Investigation with Limited Sampling
2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW
Sampling Location Plan

Figure: 2

Project: E23668.E01.Rev0

TABLES

Table T1 **Summary of Soil Analytical Results** **E23668 - Strathfield**

Sample ID	Material	Date	Heavy Metals								PAHs				BTEX				TRH				TPH		Pesticides		PCBs	Asbestos
			As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Carcinogenic PAHs (as B(a)P TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4	C_6-C_9	C_{10}-C_{36}	Total OCPs	Total OPPs	Total	Presence (Yes/No)
EI, 2017																												
BH101_0.3-0.4	Fill	23/1/2018	13	0.3	18	120	530	0.15	8.1	92	0.3	0.2	1	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
BH102_0.3-0.4			5	0.6	9.3	140	2,800	0.43	8.9	190	1.0	0.7	7.4	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
BH103_0.4-0.5			9	<0.3	11	27	72	<0.05	9.7	46	<0.3	0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
BH104_0.3-0.4			8	<0.3	14	67	350	0.08	4.9	83	0.6	0.4	4.4	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
BH105_0.3-0.4			6	<0.3	7.6	6.3	41	<0.05	1.4	9.1	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
BH101_1.0-1.1	Residual Soil		14	<0.3	22	19	33	<0.05	<0.5	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	N.A.	N.A.	N.A.	N.A.
BH102_1.0-1.1			6	<0.3	31	14	110	<0.05	1.4	22	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	N.A.	N.A.	N.A.	N.A.
BH103_1.0-1.1			4	<0.3	11	12	36	<0.05	1	18	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	N.A.	N.A.	N.A.	N.A.
BH104_1.5-1.6			7	<0.3	19	17	39	<0.05	0.8	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	N.A.	N.A.	N.A.	N.A.
QD1	Soil		4	<0.3	6.7	9.3	30	<0.05	1.5	16	N.A.	N.A.	N.A.	N.A.	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	N.A.	N.A.	N.A.	N.A.
QT1			<4	<0.4	6	4	22	<0.1	2	10	N.A.	N.A.	N.A.	N.A.	<0.2	<0.5	<1	<1	<25	<50	<100	<100	<25	<275	N.A.	N.A.	N.A.	N.A.
QTB			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	<0.1	<0.1	<0.1	<0.3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
QR1	Water		<1	<0.1	<1	<1	<1	<0.0001	<1	71	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Statistical Analysis																												
Maximum Concentration			14	0.6	31	140	2800	0.43	9.7	190	1	0.7	7.4	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<20	<110	<1	<1.7	<1	No
SILs																												
HIL B - Residential			500	150	500 Cr (VI)	30,000	1,200	120	1,200	60,000	4		400														1	
HSL A & HSL B - *Low - High Density Residential* Soil texture classification – Silt [2]			Source depths (0 m to <1 m. BGL)											4	0.6	390	NL	95	40	230								
			Source depths (1 m to <2 m. BGL)											NL	0.7	TL	NL	210	65	NL								
			Source depths (2m to <4 m. BGL)											NL	1	TL	NL	NL	100	NL								
			Source depths (4 m+)											NL	2	TL	NL	NL	190	NL								
EIL / ESL [1]			105		198	110	1,200		35	145		0.7		170	65	105	125	45	180	120	1,300	5,600			180			
Management Limits – *Residential, parkland and public open space* Coarse grained soil texture[1]																			700	1,000	3,500	10,000						
Asbestos contamination HSL – A&B *Residential* Bonded ACM (%w/w)																												0.01
Asbestos contamination HSL for Non Bonded / Friable Asbestos (%w/w)																												

Notes:
All results are recorded in mg/kg (unless otherwise stated)

Highlighted indicates concentrations exceeds EIL / ESL criteria

Highlighted values indicates concentration exceeds Human Health Based Soil Criteria (HIL B / HSL D) and/or NSW EPA Waste Classification Criteria.

Highlighted indicates NEPM 2013 criteria exceeded or NSW EPA (2014) waste criteria met

HSL D	NEPC 1999 Amendment 2013 'HSL D' Health Based Screening Levels based on vapour intrusion values applicable for commercial / industrial settings
NA	Not Analysed' i.e. The sample was not analysed
NC	Not Calculated'
ND	Not Detected' i.e. all concentrations of the compounds within the analyte group were found to be below the laboratory limits of detection
NL	Not Limiting' - The soil vapour limit exceeds the soil concentration at which the pore water phase cannot dissolve any more individual chemical
NR	No current published Criterion
1	Coarse grained soil values were applied, being the most conservative of the material types.
2	Silt grained soil values were applied.
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction
F2	To obtain F2 subtract Napthalene from the >C10-C16 fraction
F3	(>C16-C34)
F4	(>C34-C40)

eiaustralia
Contamination | Remediation | Geotechnical

Table-T2 - RPD QAQC **E23668.E01**

Sample identification	Sampling Date	Description	TRH				BTEX				Heavy Metals							
			F1	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Total Xylenes	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Intra-laboratory Duplicate - Soil Investigation																		
BH105_0.3-0.4	21/11/2017	Soil	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	7.6	6.3	41	<0.05	1.4	9.1
QD1		Duplicate of BH105_0.3-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	<0.3	6.7	9.3	30	<0.05	1.5	16
RPD			*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*40.00*	*NA*	*12.59*	*NA*	*30.99*	*NA*	*NA*	*NA*
Inter-laboratory Duplicate - Soil Investigation																		
BH105_0.3-0.4	21/11/2017	Soil	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	7.6	6.3	41	<0.05	1.4	9.1
QT1		Duplicate of BH105_0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<4	<0.4	6	4	22	<0.1	2	10
RPD			*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*11.19*	*44.66*	*60.30*	*NA*	*NA*	*NA*

NOTE: All results are reported in mg/kg (soil) or µg/L (water)

NA	Different PQLs
*	Calculated according to NEPM 2013
66.67	RPD calculated by halving detection limit exceeds 30-50% range referenced from AS4482.1 (2005)
66.67	RPD exceeds 30-50% range referenced from AS4482.1 (2005)

APPENDIX A
Proposed Development Plans

2 - 6 PILGRIM AVENUE, 11-13 ALBERT ROAD & 9 ALBERT ROAD STRATHFIELD

PLANNING PROPOSAL

JBA KENNEDY ASSOCIATES ARCHITECTS

planning proposal

This document has been prepared by Kennedy Associates Architects and JBA Planning in support of the Planning Proposal for the urban block bounded by Pilgrim Avenue, Albert Road, Raw Square and the railway corridor at Strathfield, Sydney.

The block consists of two 'sites' being:

Site 1 – the amalgamation of 2-6 Pilgrim Avenue and 11-13 Albert Road Strathfield, currently occupied by single dwellings and residential flat buildings
Site 2 – 9 Albert Road, Strathfield, currently occupied by a service station

Site 1 is currently occupied by single dwellings and residential flat buildings, whilst Site 2 is currently occupied by a service station.

Site 1 has an area of approximately 2868m2 whilst Site 2 has a total area of 2017m2. The total urban block has an area of approximately 4885m2.

Whilst this planning proposal is primarily focused on the future redevelopment of Site 1 it has been prepared in a manner that shows the long term development potential of the entire site.

The site is located immediately adjacent to Strathfield Town Centre and Strathfield Station. It is separated from the 'Strathfield Triangle' precinct by the railway corridor.

This places the site in the heart of the zone of redevelopment currently taking place across Strathfield and Canada Bay Council areas, focused on the significant strategic and urban planning opportunities offered by Strathfield Station and Strathfield Town Centre.

The need for higher density development to address Sydney's significant housing requirements is now well documented and, as this document identifies, there is a major shift in the approach to urban development around major transport corridors and urban hubs currently taking place across the entire city.

Densities, building heights, building form and building typologies are all being re-evaluated and key business and transport centres, such as Parramatta, St Leonards, Burwood and Rockdale are undergoing significant changes to address not only the new demographic and infrastructure pressures but also the change in thinking about what is the appropriate urban character and scale for the future of Greater Metropolitan Sydney.

Building heights of 70m - 80 m & 20-25 storeys are becoming the new 'average' in urban town centres (with 40 storeys and even 60 storeys being adopted), as centres address their future needs and compete for both public and private investment.

In this context the subject site, occupying a substantial amalgamated parcel of land located approximately 200m from one of Australia's major rail stations and 400m from the start of a major national motorway, with only one neighbour sharing a common boundary and adjoining an already existing context of up to 20 storeys in height, is ideally placed to adopt this new urban approach. The free standing nature of the subject site allows it to be seen, with its 'other half', as a 'stand alone' entity.

The subject site is, in fact, critically located in that it adjoins and forms part of the gateway to the principal points of entry to Strathfield Town Centre from both the west and north.

That is, it offers a strategically important opportunity in terms of the future character of Strathfield.

This document, identifies the regional and contextual opportunities for the site and proposes a development that delivers a group of buildings varying in height between 11 and 16 storeys (37m – 54m).

This places the proposed development firmly within the already anticipated context of the area and the lower end of the currently accepted range for high density developments being proposed across Sydney.

This Planning Proposal shows how the subject site can be successfully developed to achieve a mixed use development that will deliver a high standard of amenity to its occupants and strengthen the urban character of Strathfield Town Centre.

data

site data:

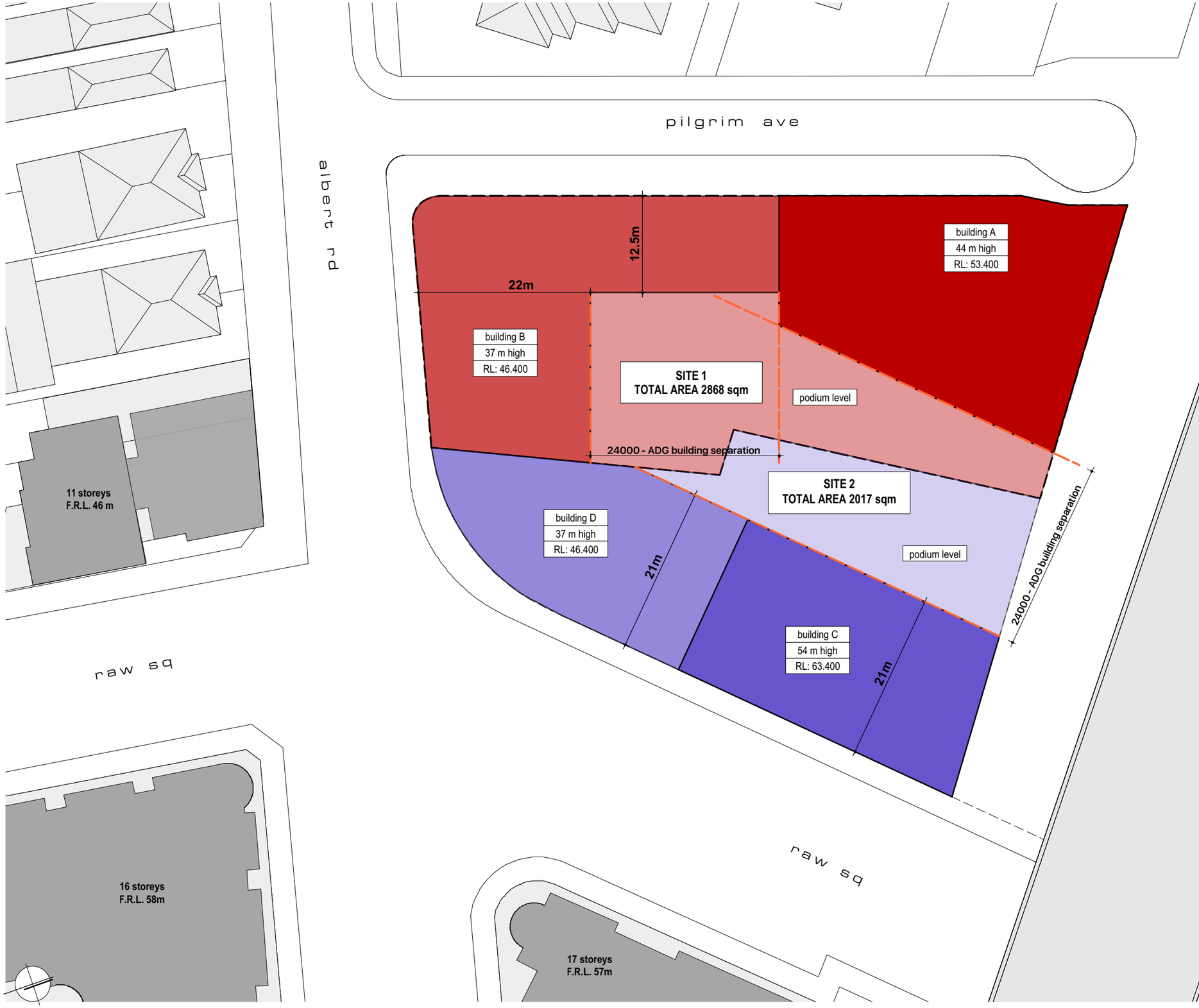
Site 1:	Lots 2, 4 & 6 Pilgrim Avenue and 11 & 13 Albert Road, Strathfield
Site 2:	9 Albert Road, Strathfield
Site areas:	[Site 1] 2868m2 [Site 2] 2017m2 Total Area = 4885m2
Site Frontages:	90m to Pilgrim Avenue 32m to Albert Road

proposed development:

Massing		perimeter block massing consisting of a series of interconnected buildings facing Pilgrim Avenue Albert Road & Raw Square Strathfield
Use:		Ground Floor Commercial Upper Floors Residential
Height		[Site 1] 11 - 13 Storeys [Site 2] 11 - 16 Storeys
Yield:	approx	[Site 1] 155 - 175 apartments [Site 2] 100 - 120 apartments
GFA	approx	[Site 1] 14,340 m2 [Site 2] 10,085 m2
FSR	approx	[Site 1] 5:1 [Site 2] 5:1
Parking	approx	[Site 1] 351 spaces [Site 2] 228 spaces

drawing schedule

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828



site 1: subject site FSR = 5:1		2868 sqm GFA = 14340 sqm	
building	**height in storeys**	**GFA**	**UNITS**
podium	1	888 sqm	commercial
A 555 sqm 7 units	12	13452 sqm	85
B 770 sqm 9 units	10		83
subject site total		14340 sqm	167
proposed residential FSR	13452 / 2868 = 4.70 : 1		
proposed commercial FSR	888 / 2868 = 0.30 : 1		
total proposed FSR	14340 / 2868 = 5.00 : 1		
unit mix	51 x 1B (30%) 99 x 2B (59%) 18 x 2B+S (11%)		

site 2: adjoining site FSR = 5:1		2017 sqm GFA = 10085 sqm	
building	**height in storeys**	**GFA**	**UNITS**
podium	1	471 sqm	commercial
C 430 sqm 5 units	15	9614sqm	75
D 340 sqm 4 units	10		38
subject site total		10085 sqm	113
proposed residential FSR	9570 / 2017 = 4.75 : 1		
proposed commercial FSR	471 / 2017 = 0.23 : 1		
total proposed FSR	10085 / 2017 = 5.00 : 1		
unit mix	113 x 2B		

Unit mix summary	
Site 01_subject site	168 (60%)
Site 02	113 (40%)
Total	280

indicative development - plan

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

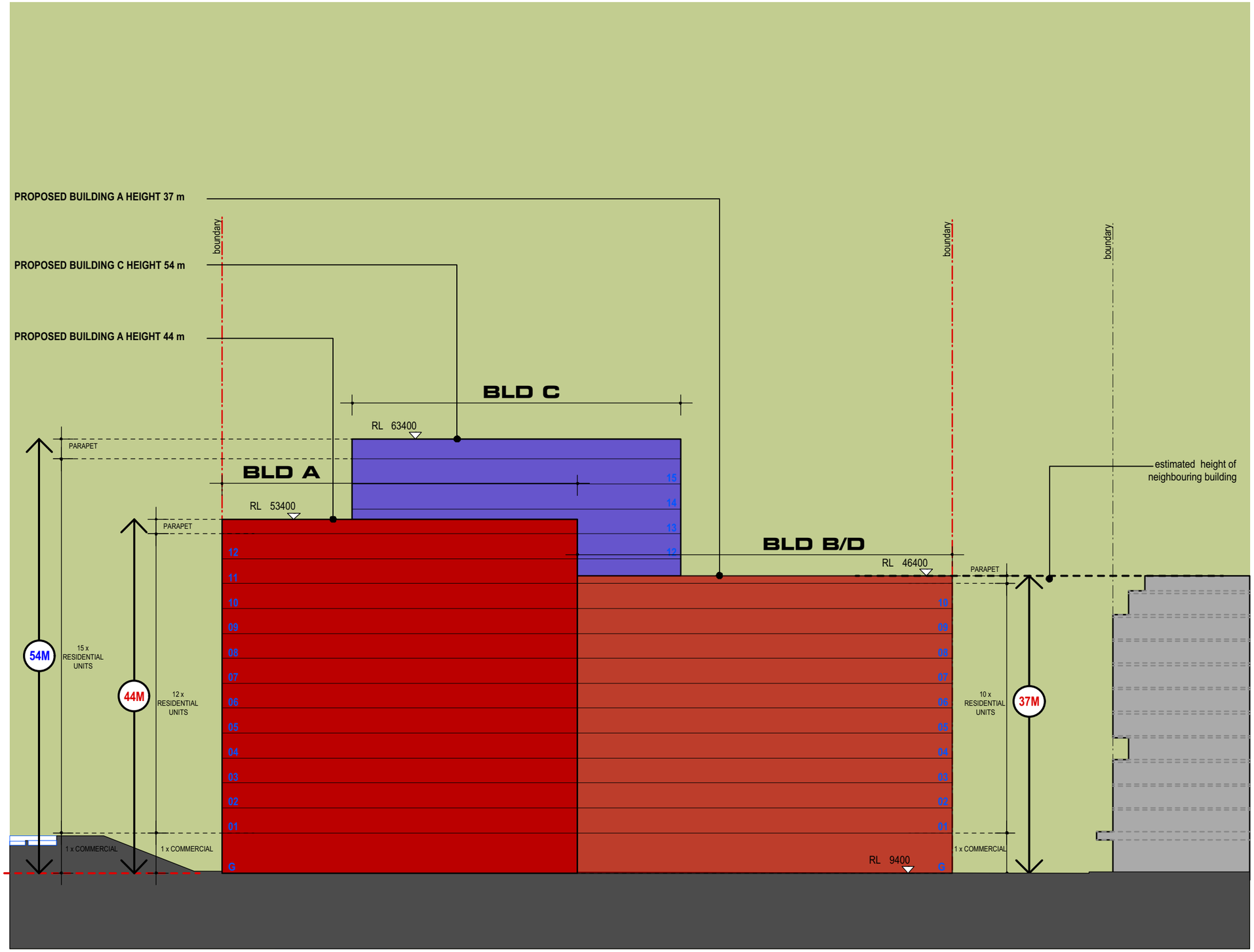
2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

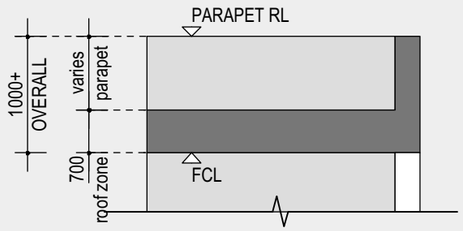
0 5 10 25m

1:500 @ A3

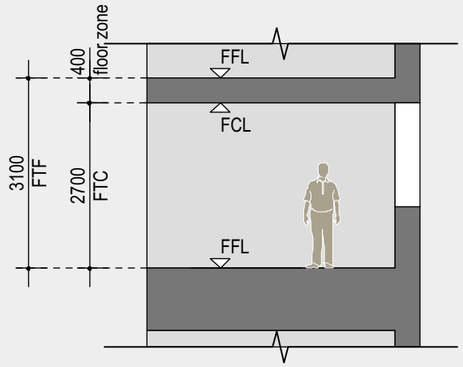
1361 – PP 46 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

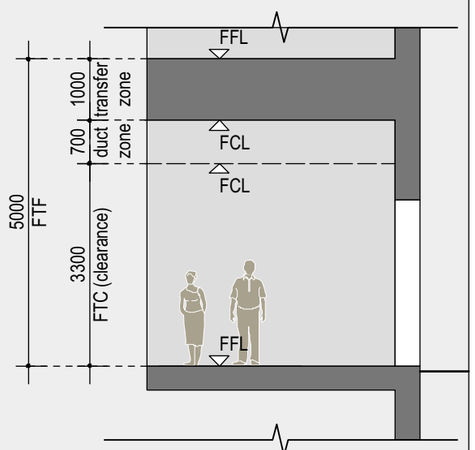




typical section detail_1:100
ROOF ARTICULATION ZONE



typical section detail_1:100
RESIDENTIAL ZONE



typical section detail_1:100
COMMERCIAL ZONE

indicative development - pilgrim road elevation

for ilustrative purpose only

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

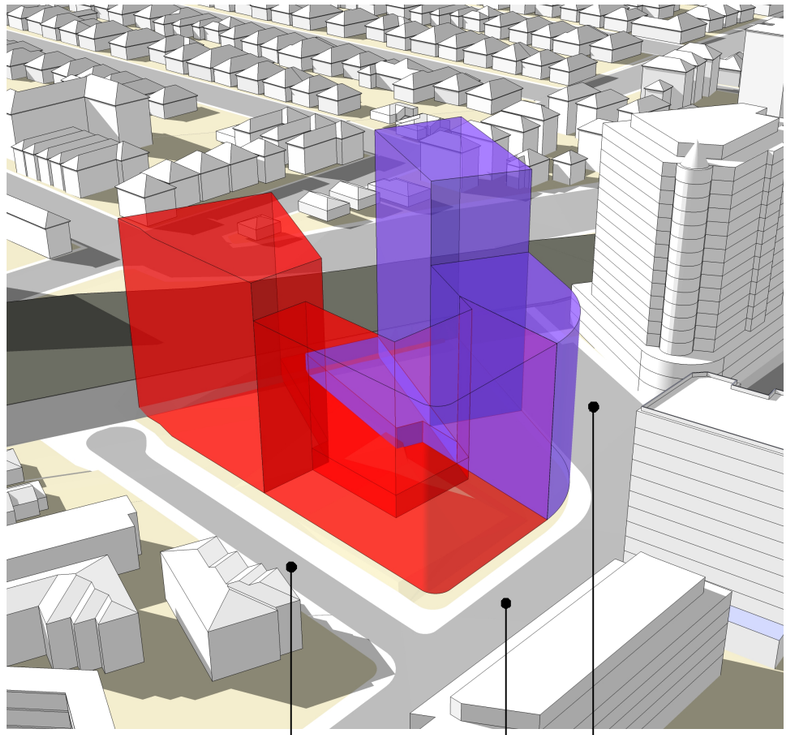
2-6 Pilgrim Ave &1 1-13 Albert Rd, Strathfield

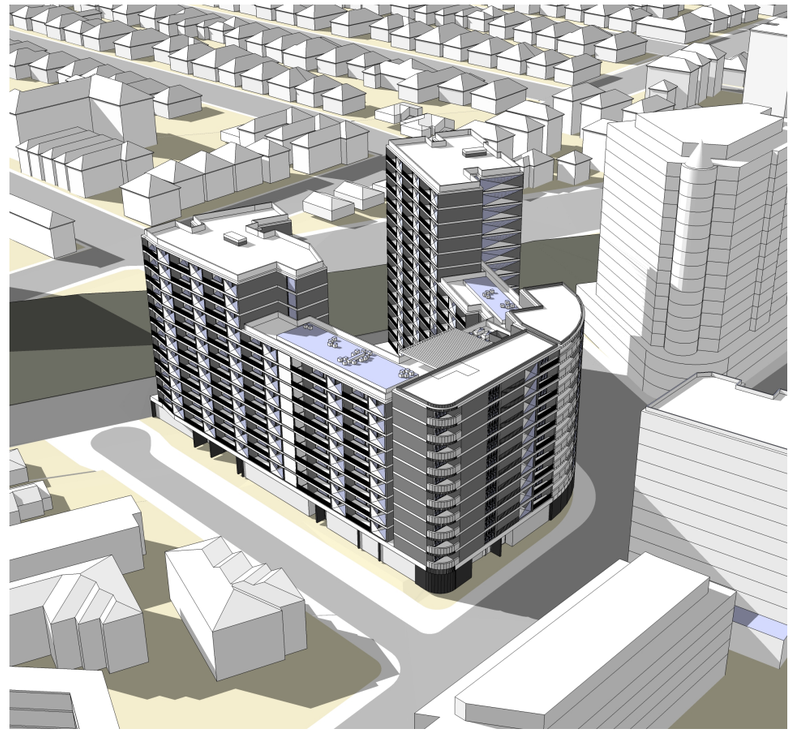
0 5 10 25m

1:500 @ A3

1361 – PP 47 A

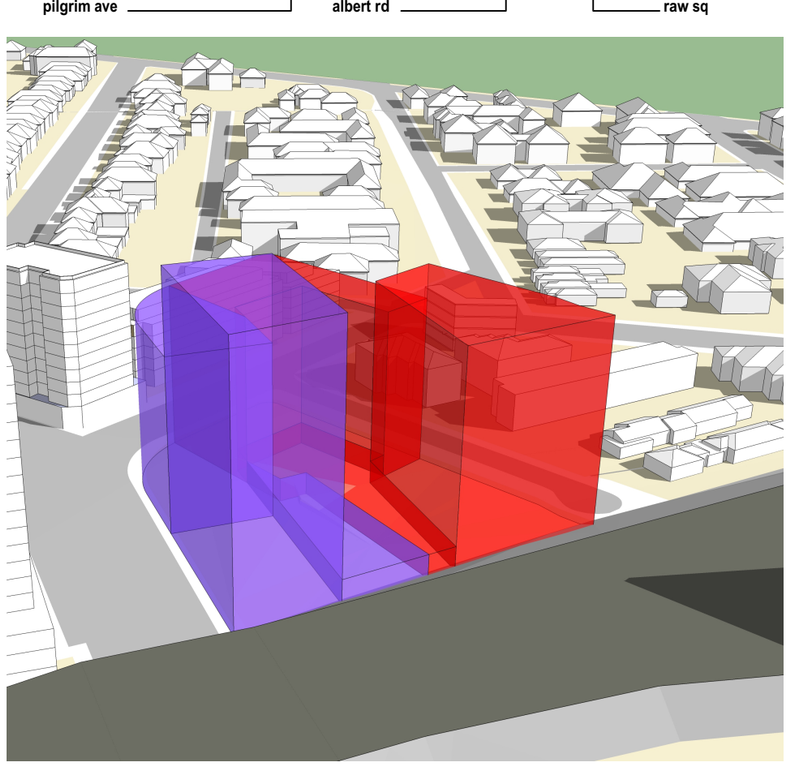
kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

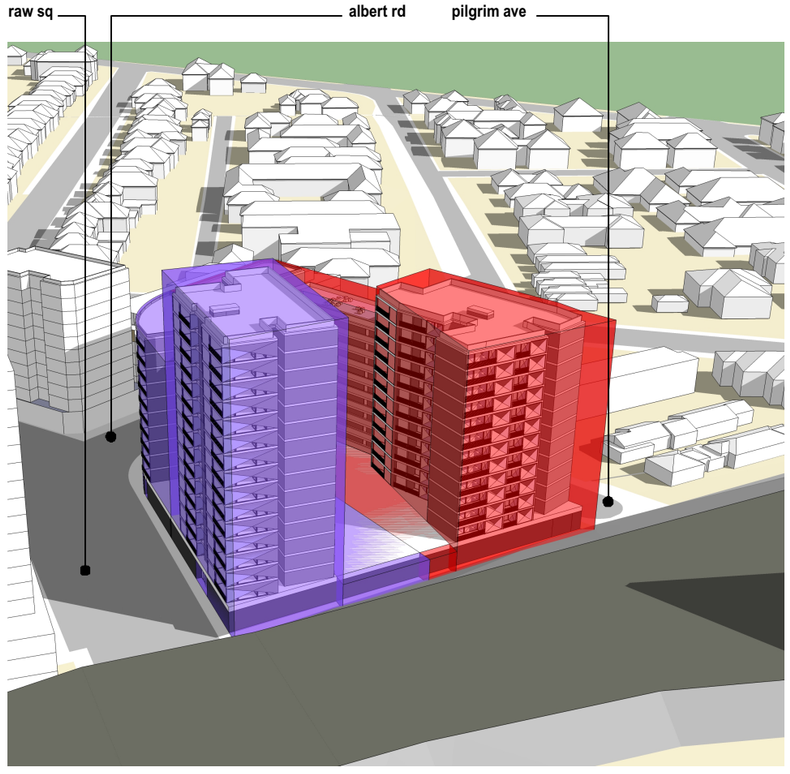


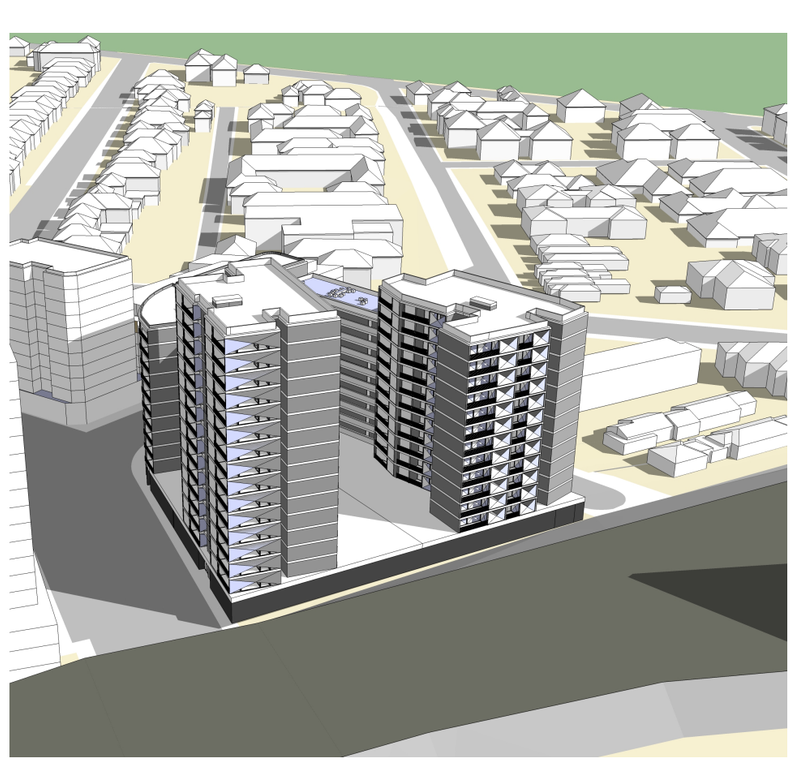


pilgrim ave — albert rd — raw sq

raw sq — albert rd — pilgrim ave







site 01 - buildings A and B

site 02 - buildings C and D

indicative development - 3d views

proposed mixed use development @

for ilustrative purpose only

A 21/4/17 Updated Planning Proposal

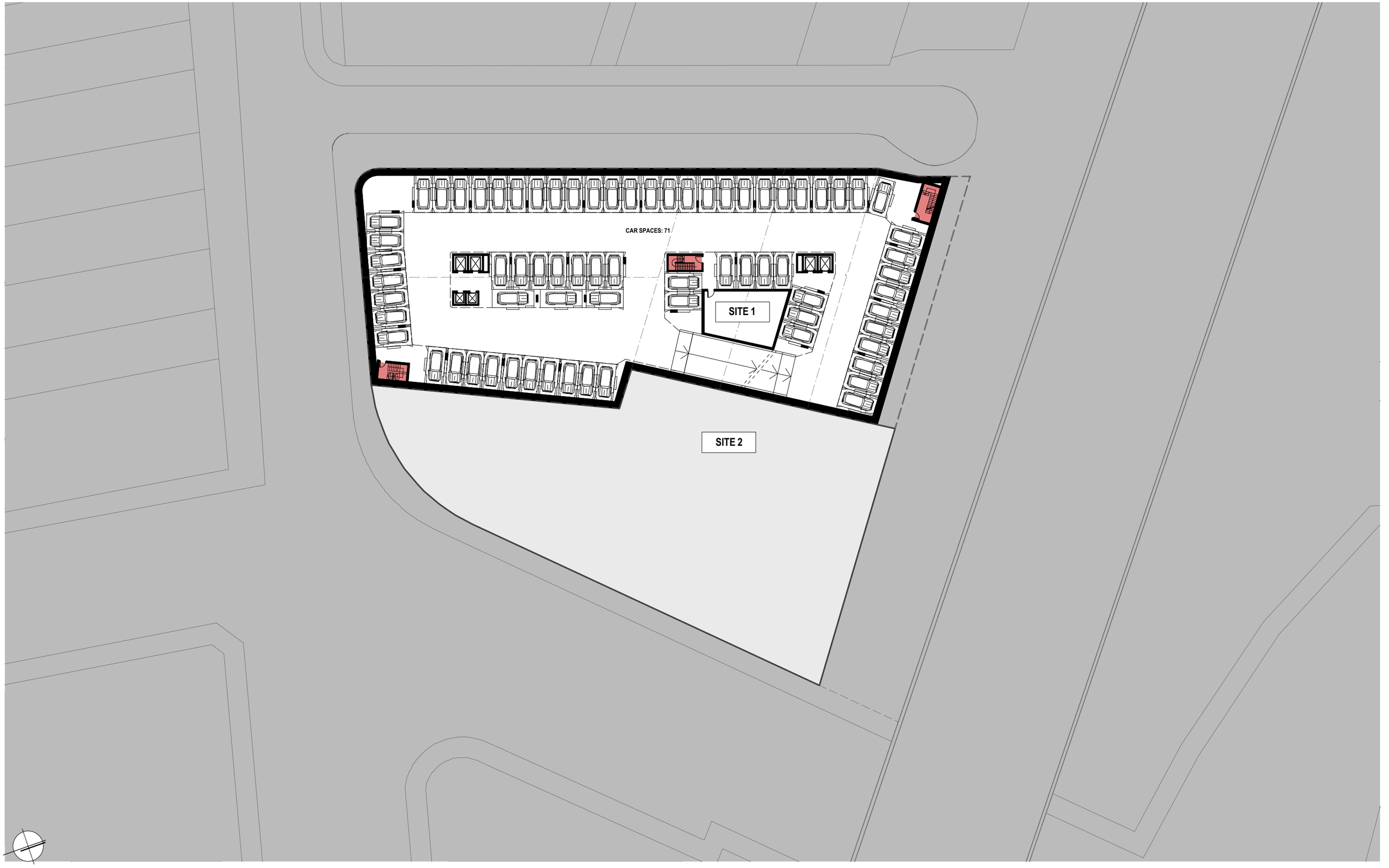
2-6 Pilgrim Ave &1 1-1 3 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 48 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828



indicative development - typical basement [site 1]

proposed mixed use development @

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

A 21/4/17 Updated Planning Proposal

0 5 10 25m

1:500 @ A3

1361 – PP 62 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

pilgrim ave

albert rd

raw sq

raw sq

11 storeys
F.R.L. 46 m

16 storeys
F.R.L. 58m

17 storeys
F.R.L. 57m

SITE 1

SITE 2

B.O.H.

PLANT

B.O.H.

B.O.H.

B.O.H.

PLANT

PLANT

all building hight referenced to this point.

indicative development - level 00 - ground [site 1]

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 63 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

indicative development - level 01-08 [site 1]

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 64 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

indicative development - level 09 [site 1]

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 65 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

indicative development - level 10 [site 1]

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 66 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

indicative development - level 11-12 [site 1]

proposed mixed use development @

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

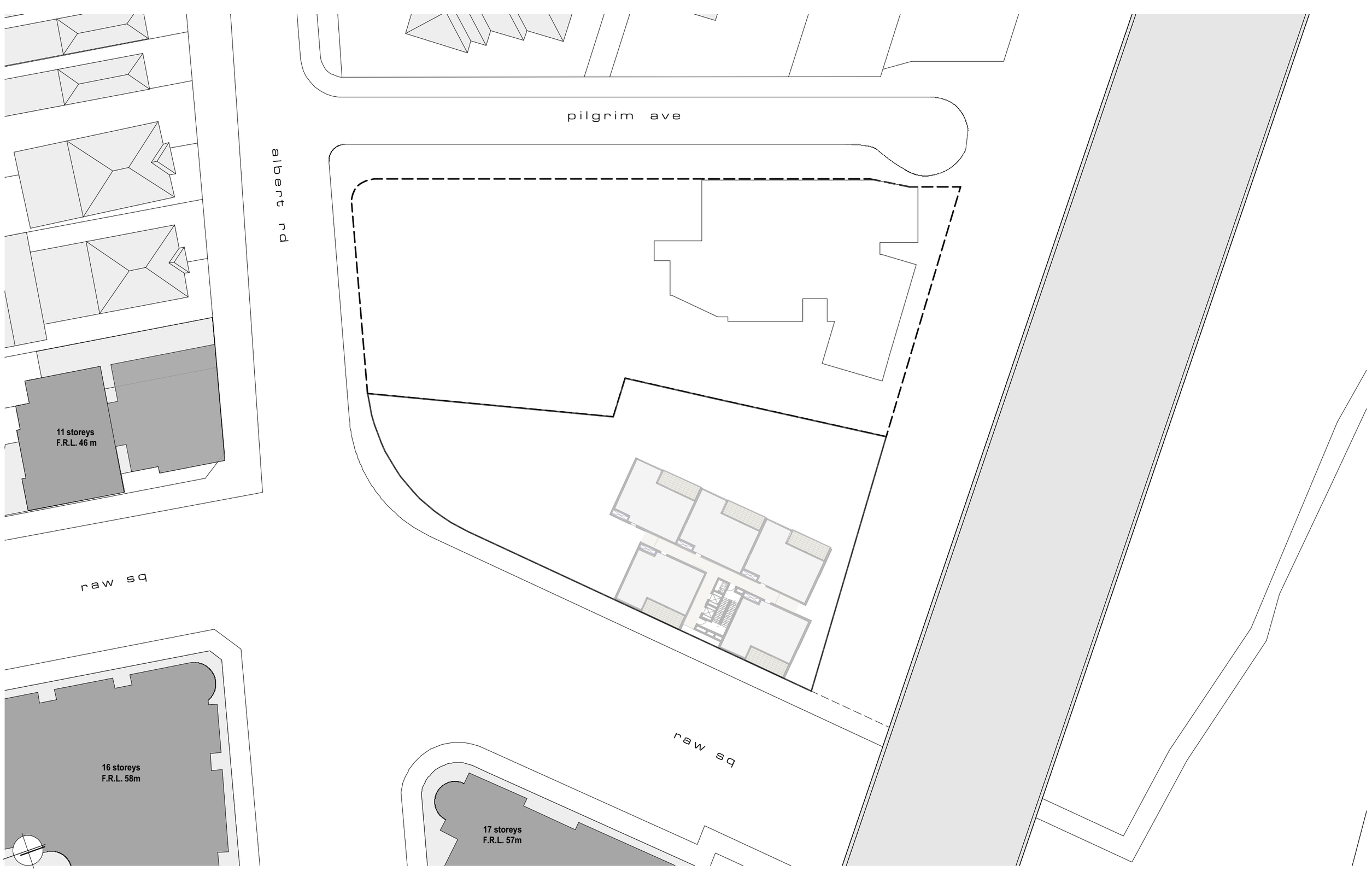
A 21/4/17 Updated Planning Proposal

0 5 10 25m

1:500 @ A3

1361 – PP 67 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828



indicative development - level 13-16 [site 1]

proposed mixed use development @

A 21/4/17 Updated Planning Proposal

2-6 Pilgrim Ave &11-13 Albert Rd, Strathfield

0 5 10 25m

1:500 @ A3

1361 – PP 68 A

kennedy associates architects level 3 / 1 booth street annandale 2038 p + 61 2 9557 6466 f + 61 2 9557 6477 nominated architect - steve kennedy - registration no. 5828

APPENDIX B
NR Atlas Groundwater Bore Search

All Groundwater
find a site
All Groundwater Map

bandwidth high low

glossary and metadata

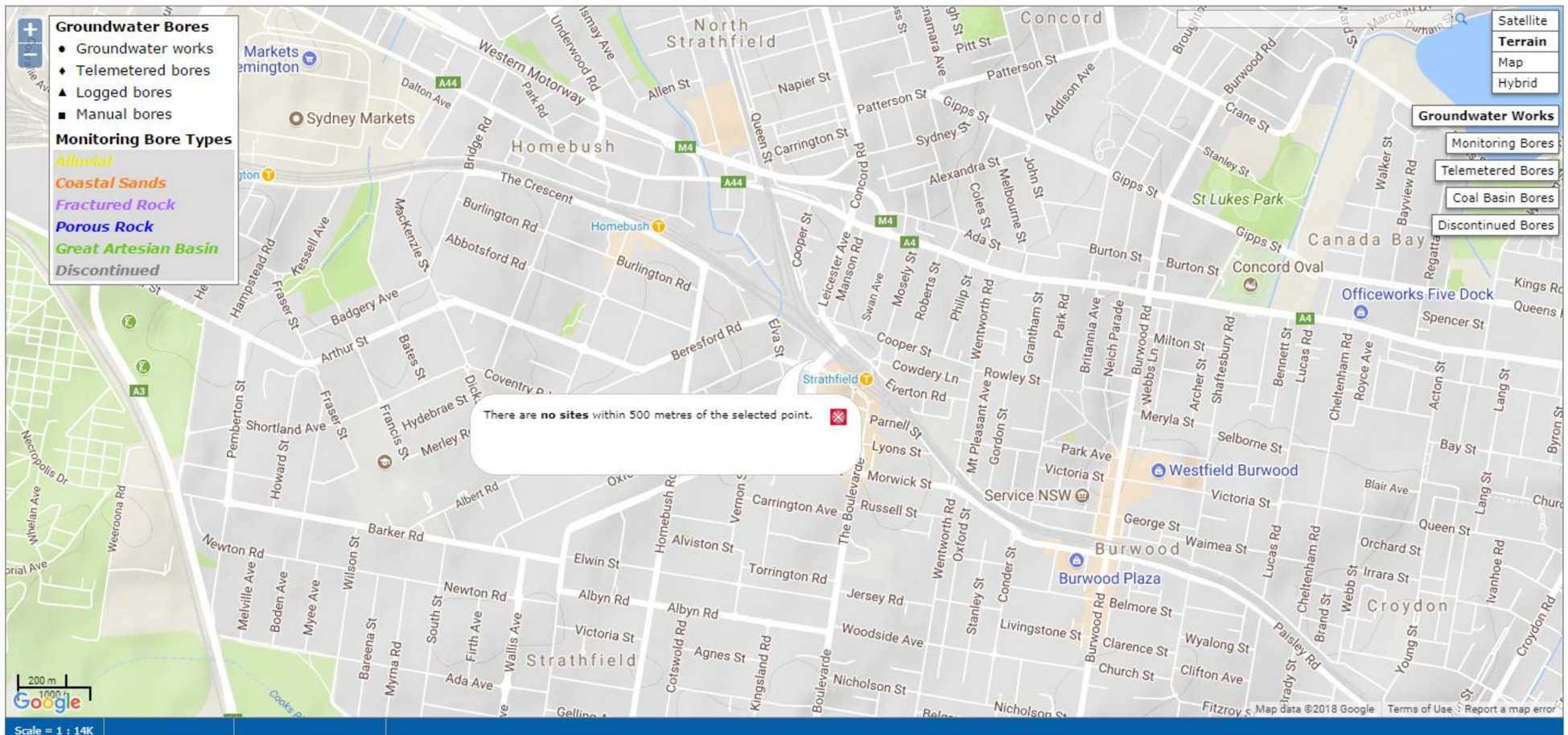
All Groundwater

All Groundwater Map

bookmark this page

All data times are Eastern Standard Time

Map | Info



Scale = 1 : 14K

APPENDIX C
Site Photographs

Photograph 1: Northern street view of Pilgrim Avenue towards the railway corridor.

Photograph 2: Southern view of site along Pilgrim Avenue, towards Albert Road.

Photograph 3: BH101M located along the railway corridor, north-west corner of site.

Photograph 4: Western view of dwelling located at 2 Pilgrim Avenue.

Photograph 5: Front view of property located at 2 Pilgrim Avenue (north-west corner of the site).

Photograph 6: Front view of properties located at 4 & 6 Pilgrim Avenue (Western side of site).

Photograph 7: Backyard of property located at 4 Pilgrim Avenue, adjoining the Shell Service Station.

Photograph 8: View of properties fronting Pilgrim Avenue (western site boundary).

Photograph 9: Driveway of 2 Pilgrim Avenue and view of railway corridor.

Photograph 10: Eastern view of backyard located at 11-13 Albert Road, used for units associated car parking.

Photograph 11: Overgrown vegetation evident along the western boundary of 11-13 Albert Road.

Photograph 12: Northern exterior of the unit block located at 13 Albert Road.

Photograph 13: General litter evident in the backyard11-13 Albert Road.

Photograph 14: Northern and western views of unit blocks located at 11-13 Albert Road.

Photograph 15: North-eastern corner of 11 Albert Road, adjoining Shell Service Station.

Photograph 16: Brick fragments located near BH104M.

Photograph 17: Driveway in between 11-13 Albert Road, with potential burst sewer drain.

Photograph 18: BH105M locality near southern site boundary of Albert Road.

Photograph 19: Potential asbestos containing material (ACM) present in buildings awnings across the site.

Photograph 20: Buildings exterior from the south-western corner of the site at 13 Albert Road.

Photograph 21: Western exterior of unit block at 13 Albert Road.

Photograph 22: Frontal exterior of unit block located at 11 Albert Road and street view of Railway Square and Albert Road intersection.

Photograph 23: Litter present in front of unit blocks at 13 Albert Road.

Photograph 24: Shell Service Station located at 9 Albert Road.

Photograph 25: Fill points indicating the approximate locality of underground storage tanks (USTs).

Photograph 26: Western view of Albert Road.

Photograph 27: Eastern exterior of unit block at 11 Albert Road.

APPENDIX D
Historical Property Titles Search

scottASHWOOD PTY.LTD
An InfoTrack Company

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

Summary of Owners Report

NSW LRS
(Formerly LPI)

Sydney

Address: 9 – 13 Albert Road & 2 – 6 Pilgrim Avenue, Strathfield

Description: Lot 100 D.P. 807807, Lots A & B D.P. 100558,

Lots 8 & 9 D.P. 15917 & S.P. 8785

As regards Lot A D.P. 100558

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1934)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225
07.03.1934 (1834 to 1934)	Arthur Clarke (Gentleman)	Vol 4333 Fol 225 Now Vol 4621 Fol 89
24.08.1934 (1934 to 1956)	Arthur Clarke (Gentleman) Millicent Mary Clarke (Married Woman)	Vol 4621 Fol 89
04.07.1956 (1956 to 1964)	John James Timbs (Naval Lieutenant) Mary Norwood Timbs (Widow)	Vol 4621 Fol 89 Now Vol 7174 Fol's 120 & 121
04.05.1964 (1964 to 2003)	John James Timbs (Naval Lieutenant)	Vol 7174 Fol's 120 & 121 Now A/100558
19.08.2003 (2003 to 2009)	Johant (Nominees) Pty. Limited	A/100558
27.02.2009 (2009 to 2014)	Gabriel Hung Won Kang Christina Kyoung Hee Ham Kang	A/100558
03.09.2014 (2014 to Date)	# Convertia Pty Ltd	A/100558

# Denotes Current Registered Proprietor

Easements: -

- 04.07.1956 (G328684) – Right of Carriage Way
- 04.07.1956 (G328684) – Cross Easements

Leases: - NIL

scottASHWOOD PTY.LTD
An InfoTrack Company

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards Lot B D.P. 100558

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1934)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225
07.03.1934 (1934 to 1934)	Arthur Clarke (Gentleman)	Vol 4333 Fol 225 Now Vol 4621 Fol 89
24.08.1934 (1934 to 1955)	Arthur Clarke (Gentleman) Millicent Mary Clarke (Married Woman)	Vol 4621 Fol 89
13.10.1955 (1955 to 1969)	Edna Stanley Barrett (Married Woman)	Vol 4621 Fol 89 Now Vol 7176 Fol 88
15.10.1969 (1969 to 2002)	Angelo Prestipino (Fruiterer) Maria Prestipino (Married Woman)	Vol 7176 Fol 88 Now B/100558
17.05.2002 (2002 to 2004)	Angelo Prestipino	B/100558
28.05.2004 (2004 to 2009)	Johant (Nominees) Pty. Limited	B/100558
27.02.2009 (2009 to 2014)	Gabriel Hung Won Kang Christina Kyoung Hee Ham Kang	B/100558
03.09.2014 (2014 to Date)	# Convertia Pty Ltd	B/100558

# Denotes Current Registered Proprietor

Easements: -

- 04.07.1956 (G328684) – Right of Carriage Way
- 04.07.1956 (G328684) – Cross Easements

Leases: - NIL

scottASHWOOD PTY.LTD
An InfoTrack Company

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards Lot 100 D.P. 807807

As regards the part tinted green on attached Cadastre

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1929)	Chief Commissioner for Railways and Tramways Now Railway Commissioner for New South Wales	Vol 2026 Fol 54 Now Vol 4333 Fol 225
18.11.1929 (1929 to 1933)	Hermann Hugo Korner (Watchmaker)	Vol 4333 Fol 225 Now Vol 4361 Fol 163
18.04.1933 (1933 to 1958)	Martha Louisa Korner (Widow) (Application by Transmission not investigated)	Vol 4361 Fol 163
22.04.1958 (1958 to 1963)	John E. Murray Pty. Limited	Vol 4361 Fol 163
31.07.1963 (1963 to 1963)	John Ekins Wailes (Solicitor)	Vol 4361 Fol 163
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	Vol 4361 Fol 163 Now 100/807807

As regards the part tinted blue on attached Cadastre

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1929)	Chief Commissioner for Railways and Tramways Now Railway Commissioner for New South Wales	Vol 2026 Fol 54
30.04.1929 (1929 to 1931)	Selwyn George Trevellyn Neale (Estate Agent) Henry George Smith (Estate Agent) Frank Arnold Weiss (Estate Agent)	Vol 2026 Fol 54 Now Vol 4279 Fol 64
16.06.1931 (1931 to 1933)	Hermann Hugo Korner (Watchmaker)	Vol 4279 Fol 64
18.04.1933 (1933 to 1958)	Martha Louisa Korner (Widow) (Application by Transmission not investigated)	Vol 4279 Fol 64
31.03.1958 (1958 to 1963)	Russell Alexander Murray (Garage Proprietor)	Vol 4279 Fol 64
31.07.1963 (1963 to 1963)	John Ekins Wailes (Solicitor)	Vol 4279 Fol 64
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	Vol 4279 Fol 64 Now 100/807807

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards the parts tinted pink on attached Cadastre

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1942)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225
17.02.1942 (1942 to 1955)	John Wilfred Cooper (Builder)	Vol 4333 Fol 225 Now Vol 5330 Fol 164
10.02.1955 (1955 to 1963)	Russell Alexander Murray (Garage Proprietor)	Vol 5330 Fol 164
31.07.1963 (1963 to 1963)	John Ekins Wailes (Solicitor)	Vol 5330 Fol 164
01.08.1963 (1963 to 2016)	The Shell Company of Australia Limited	Vol 5330 Fol 164 Now 100/807807

Continued as regards the whole of Lot 100 D.P. 807807

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
23.11.2016 (2016 to Date)	# Ver Custodian Pty Limited	100/807807

# Denotes Current Registered Proprietor

Easements: - NIL

Leases: -

- 04.04.1930 (B966024) – Herbert Hayes (Garage Proprietor) – expired 12.06.1958 (part tinted green on attached Cadastre)
- 11.07.1958 (H84860) – The Shell Company of Australia Limited – merged into the fee simple 25.11.1963 (part tinted green on attached Cadastre)
- 04.07.2005 (AB570908) – Eureka Operations Pty Limited – expires 28.04.2024
    - 23.11.2016 (AK932586) – Concurrent Lease – Viva Energy Australia Pty Ltd – expires 07.08.2032 – option to purchase – also option of renewal 7 X 10 years

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards Lot 8 D.P. 15917

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1935)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225
24.05.1935 (1935 to 1936)	Ellen Amelia Spearman (Married Woman)	Vol 4333 Fol 225 Now Vol 4708 Fol 79
09.11.1936 (1936 to 1937)	Claude Hilton Bellamy (Builder)	Vol 4708 Fol 79
18.11.1937 (1937 to 1941)	John Ross Houston (Accountant)	Vol 4708 Fol 79
19.11.1941 (1941 to 1952)	Edna Alice Houston (Widow) Now Edna Alice Englert (Married Woman) (Application by Transmission not investigated)	Vol 4708 Fol 79
17.06.1952 (1952 to 1954)	John Thomas Williams (Patrolman)	Vol 4708 Fol 79
01.09.1954 (1954 to 1983)	Mary Adela McCrow (Spinster)	Vol 4708 Fol 79
18.04.1983 (1984 to 1986)	Edward Jones Elizabeth Anna Jones	Vol 4708 Fol 79
03.06.1986 (1986 to 1986)	Elizabeth Anna Jones	Vol 4708 Fol 79
18.08.1986 (1986 to 2014)	Harman Wong Linda Wong	Vol 4708 Fol 79 Now 8/15917
12.04.2014 (2014 to Date)	# Convertia Pty Ltd	8/15917

# Denotes Current Registered Proprietor

Easements & Leases: - NIL

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards Lot 9 D.P. 15917

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1938)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225
25.01.1938 (1938 to 1941)	George Leonard Marlow (Salesman) Percy Charles Marlow (Storekeeper)	Vol 4333 Fol 225 Now Vol 4932 Fol's 3 & 4
20.08.1941 (1941 to 1957)	James Thomas Reeves (Retired)	Vol 4932 Fol's 3 & 4 Now Vol 5268 Fol 12
30.01.1957 (1957 to 1962)	Victor Oswald Thomas Reeves (Company Manager) (Section 94 Application not investigated)	Vol 5268 Fol 12
19.06.1962 (1962 to 1975)	Arhip Mihailovich Polstchikoff (Supervisor) Antonia Polstchikoff (Married Woman)	Vol 5268 Fol 12
26.09.1975 (1975 to 1980)	Kevin Douglas Bruce (Business Proprietor) Cherie Bruce (Married Woman)	Vol 5268 Fol 12
14.10.1980 (1980 to 1986)	Kazimir Savitsky (Retired) Olga Savitsky (Married Woman)	Vol 5268 Fol 12
09.12.1986 (1986 to 1999)	Olga Savitsky (Widow)	Vol 5268 Fol 12 Now 9/15917
03.11.1999 (1999 to 2008)	Sunil Lal Chhabra Shikha Lal Chhabra	9/15917
08.02.2008 (2008 to 2013)	Alpha House Pty Ltd	9/15917
07.05.2013 (2013 to Date)	# Beta House Pty Ltd	9/15917

# Denotes Current Registered Proprietor

Easements & Leases: - NIL

scottASHWOOD PTY.LTD
An InfoTrack Company

ABN: 42 166 543 255
Ph: 02 9099 7400
Fax: 02 9232 7141

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

As regards S.P. 8785

As regards the part tinted purple on attached Cadastre

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
04.11.1921 (1921 to 1921)	James Alston Gregg (Grazier)	Vol 3246 Fol 211
29.11.1921 (1921 to 1947)	Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 3246 Fol 211 Now Vol 4333 Fol 225

As regards the part tinted turquoise on attached Cadastre

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
30.12.1909 (1909 to 1947)	Chief Commissioner for Railways and Tramways Then Railway Commissioner for New South Wales Now The Commissioner for Railways	Vol 2026 Fol 54 Now Vol 4333 Fol 225

As regards the part tinted

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
18.06.1947 (1947 to 1950)	Claude Sydney Charles Mills (Taxi Cab Proprietor) Nora Mills (Married Woman)	Vol 4333 Fol 225 Now Vol 5888 Fol 40
14.11.1950 (1950 to 1972)	John Bandi (Storekeeper) Imra Fenyves (Storekeeper) Now Imre Harold Pine (Storekeeper)	Vol 5888 Fol 40 Now Vol 6427 Fol's 144 & 145
04.12.1972 (1972 to 1974)	John Bandi (Storekeeper) Ilona Bandi (Married Woman)	Vol 6427 Fol's 144 & 145 Now Vol 12347 Fol 137
15.10.1974	Registration of Strata Plan No. 8785	
	Search Continued as regards the Common Property areas	
15.10.1974 (1974 to Date)	# The Proprietors – Strata Plan No. 8785 Now # The Owners – Strata Plan No. 8785	Vol 12589 Fol 94 Now CP/SP8785

# Denotes Current Registered Proprietor

Easements & Leases: - NIL

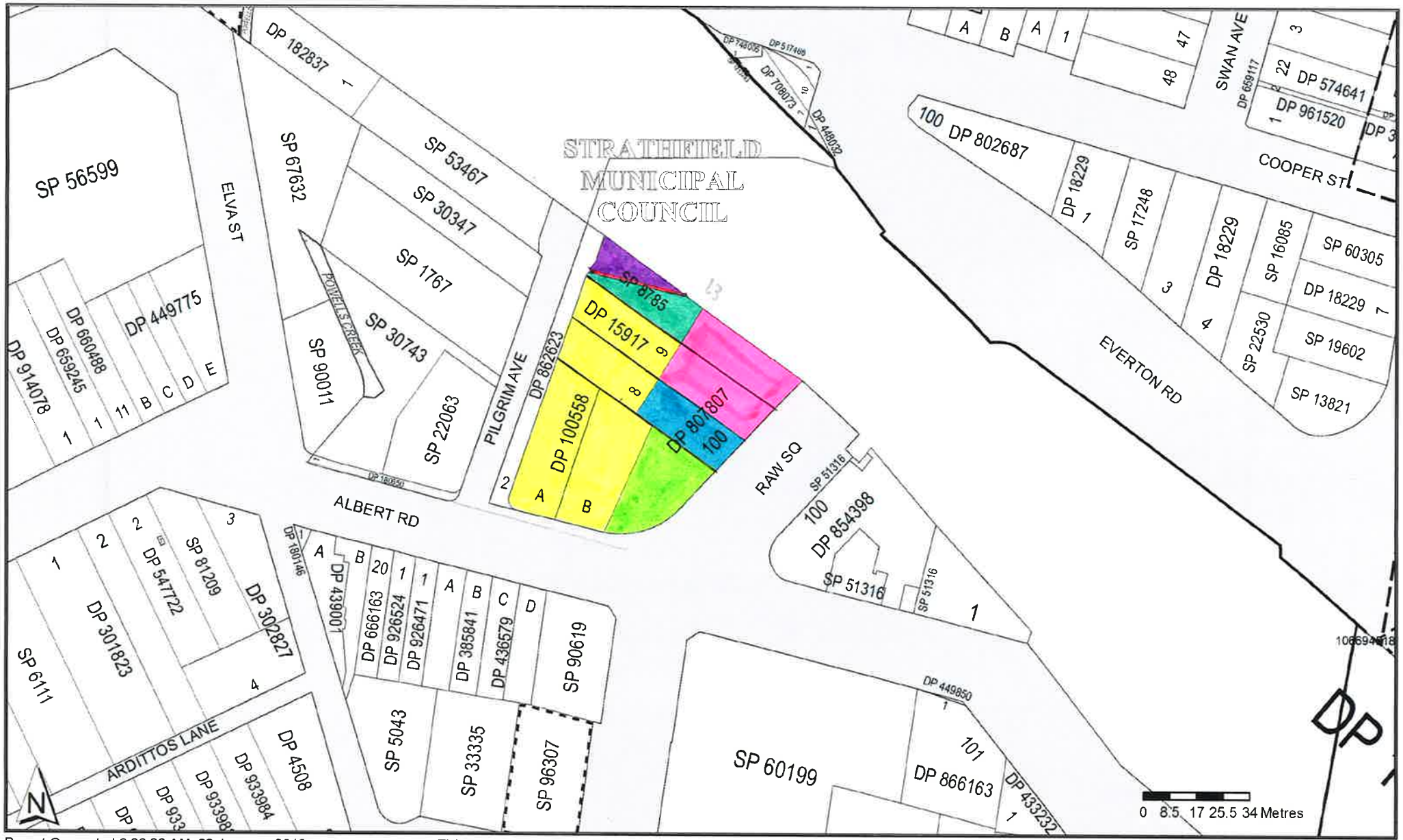
Yours Sincerely
James McDonnell
22 January 2018

LAND REGISTRY SERVICES

Cadastral Records Enquiry Report : Lot 100 DP 807807

Ref : NOUSER

Locality : STRATHFIELD
Parish : CONCORD
LGA : STRATHFIELD
County : CUMBERLAND



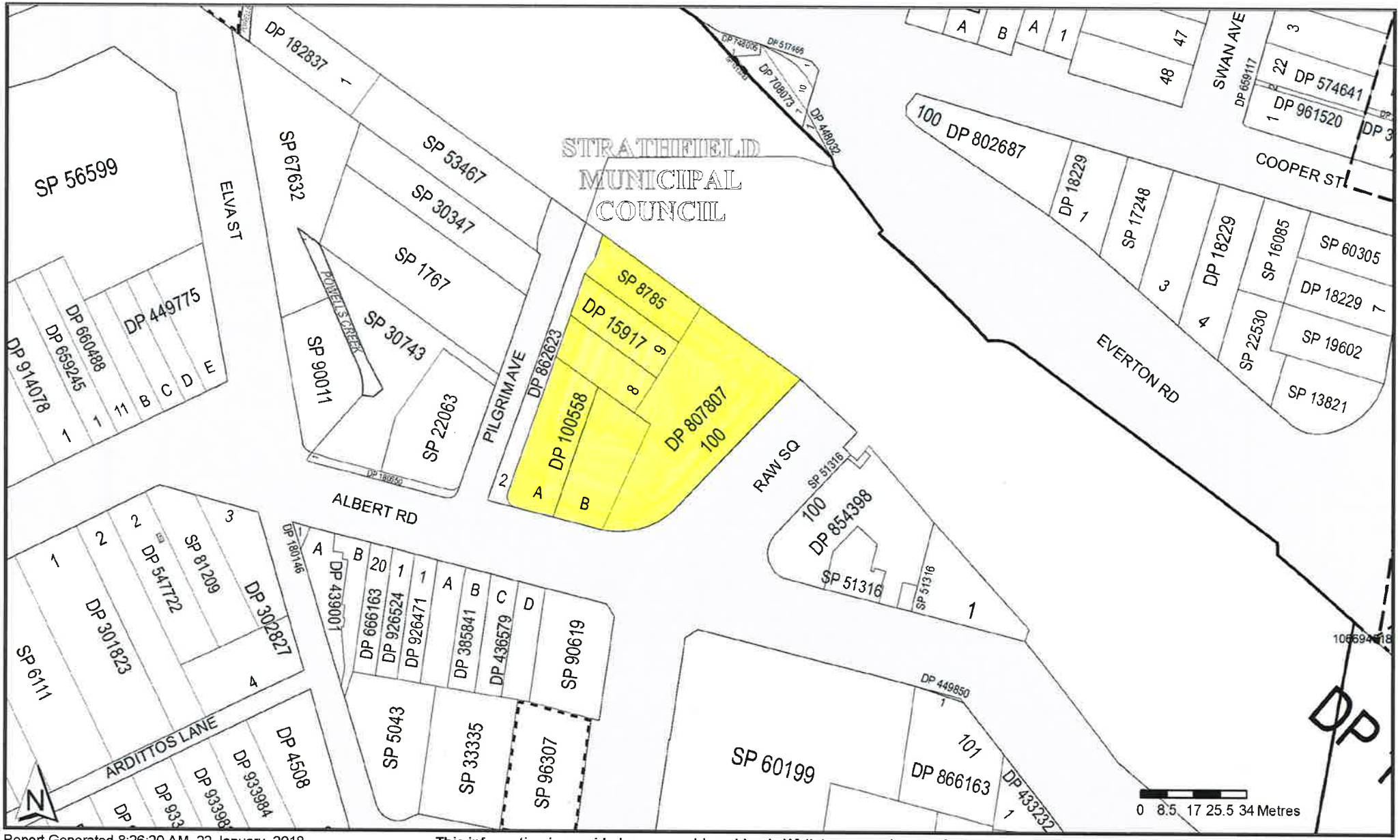
Report Generated 8:26:20 AM, 22 January, 2018

LAND REGISTRY SERVICES

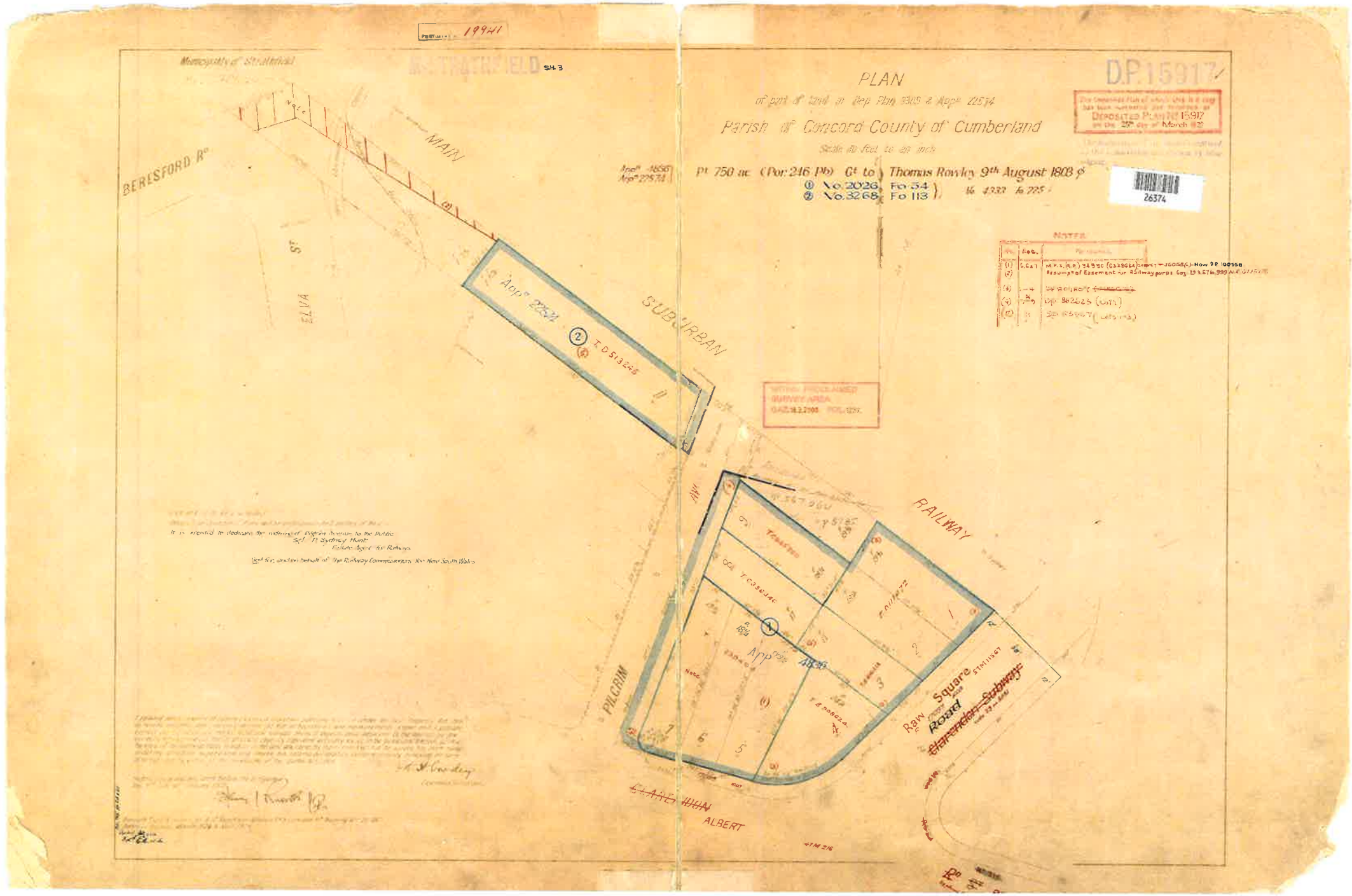
Cadastral Records Enquiry Report : Lot 100 DP 807807

Ref : NOUSER

Locality : STRATHFIELD
Parish : CONCORD
LGA : STRATHFIELD
County : CUMBERLAND



Report Generated 8:26:20 AM, 22 January, 2018



(6)

Form 1

(a) State if whole or part.

(b) Refer to number of Lot, Allotment, or Portion and to the Deposited Plan, Town, or as the case may be.

Parcel comprises[a] WHOLE of[b] LOT 1 IN F.P. 80144 AND LOT 1 IN D. P. 567064

Reference to Title Vol. 12347 Fol. 137

Mun./~~Shire/City~~ STRATHFIELD

Locality STRATHFIELD

Parish CONCORD County CUMBERLAND

Reduction Ratio 1 : 400 Lengths are in metres

STRATA PLAN 8785 (E)

Registered: 15-10-1974

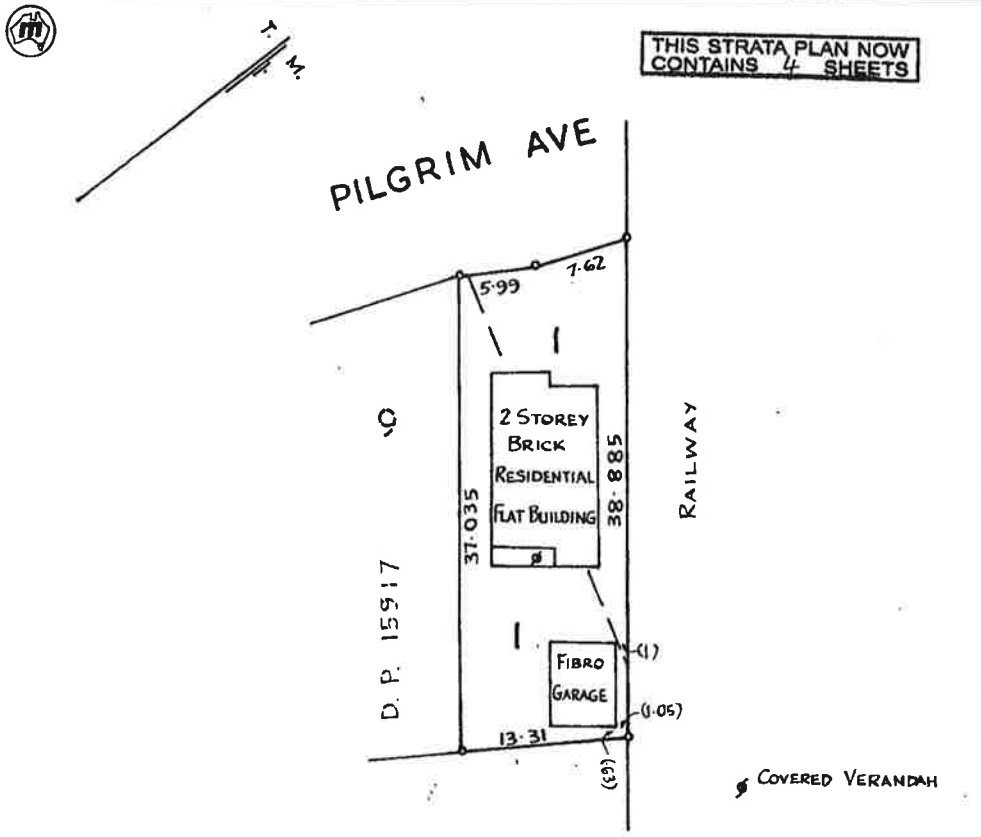
C.A.: NO. 1143 OF 8-8-1974

Ref. Map: STRATHFIELD SH. 7#

Last Plan: D.P. 80144 D.P. 567064 D.P. 3309#

THIS STRATA PLAN NOW CONTAINS 4 SHEETS

External surface boundaries of the parcel and location of the building in relation thereto to be delineated in space opposite.



(c) For use only where plan contains 10 lots or less. In other cases set out schedule on a separate sheet.

(d) Delete if inappropriate.

Schedule of Unit Entitlement[c]		OFFICE USE ONLY
Lot No.	Unit Entitlement	Resubdivision
1	1	
2	1	
AGGREGATE	2	

I, John Boulton WHITE

of 8 CROSS ST., HURSTVILLE

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that:

(1) the building erected on the parcel described above is within the external boundaries of the parcel(s) subject to clause (2) of this certificate;

~~(2) eaves or guttering of the building project beyond such external boundaries and an appropriate easement has been granted as an appurtenance of the parcel by registered Transfer No.~~

Dated 8th April, 1974

Signature

Approved by the Council for the purposes of the Conveyancing (Strata Titles) Act, 1961.

Date 13-5-1974

Subdivision No. 1143

Council Clerk

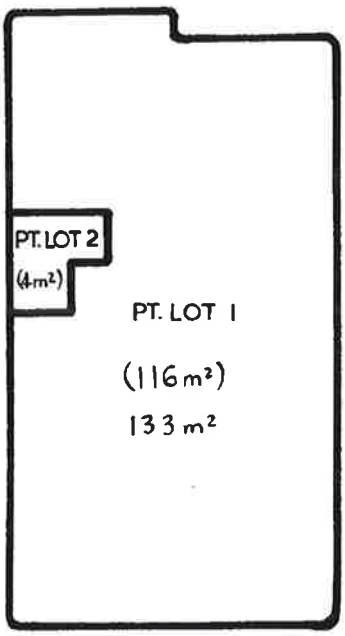
The address for service of notices on the body corporate is: THE PROPRIETORS 2 PILGRIM AVE., STRATHFIELD 2135

Surveyor's Reference: 50106

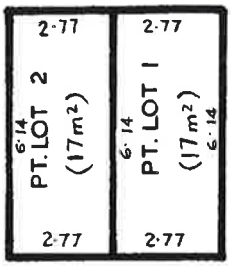
STRATA PLAN No. 8785

GROUND FLOOR

R.R. 1:125



ALL AREAS ARE APPROXIMATE.



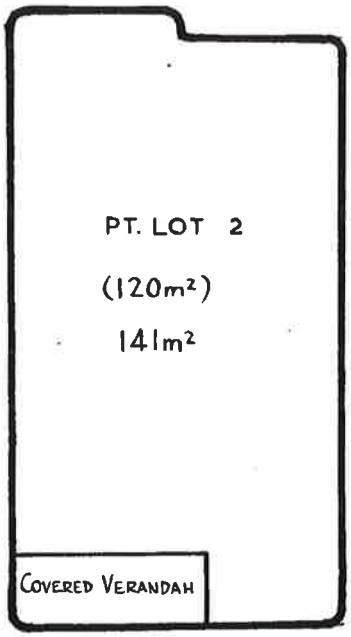
Surveyor.

Council Clerk.

STRATA PLAN No. 8785

FIRST FLOOR

R.R. 1:125



ALL AREAS ARE APPROXIMATE
AND INCLUDE COVERED VERANDAH.

Surveyor.

Council Clerk.

RG 2/94

STRATA PLAN No 8785

Annexure to Sheet 1 of 3 Sheets.
Address of Building:
2 PILGRIM ST., STRATHFIELD.

.....
Surveyor.

SURVEYOR'S CERTIFICATE.

I, John Boulton White

of 8 Cross St., Hurstville

a surveyor registered under the Surveyors Act, 1929, hereby certify that -

(1) any wall, the inner surface or any part of which corresponds substantially with any line shown on the accompanying floor plan as a boundary of a proposed lot, exists;

(2) any floor or ceiling, the upper or under surface of any part of which forms a boundary of a proposed lot, shown in the accompanying floor plan , exists;

(3) any wall, floor, ceiling or structural cubic space, by reference to which any boundary of a proposed lot shown in the accompanying floor plan is defined, exists;

(4) any building containing proposed lots erected on the land shown on the accompanying location plan and each proposed lot shown on the accompanying floor plan are wholly within the perimeter of the parcel * ~~subject to sub-paragraphs (a) and~~ (b) -

* (a) ~~except to the extent that the building encroaches on a public place~~;

* (b) eaves and guttering of the building encroach on land other than a public place, in respect of which eaves and ~~guttering an appropriate easement has been created by registered~~ /

.....

*~~(5) the survey information recorded in the accompanying location plan is accurate.~~

Signature .....

Date 6.1.8.1974

* Delete if inapplicable.
/ State whether dealing or plan, and quote registered number.

COUNCIL'S CERTIFICATE.

The Council of the ~~*City~~ *Municipality ~~*Shire~~ of Strathfield having satisfied itself that the requirements of the Strata Titles Act, 1973 (other than the requirements for the registration of plans) have been complied with, approves of the proposed *strata plan *strata plan of subdivision illustrated herein.

* ~~Council does not object to the encroachment of the building beyond the alignment of~~ .....

.....

* ~~This approval is given on the condition that lot(s)~~ .....

.....

~~*is/are subject to the restriction on user referred to in section 39 of the Strata Titles Act, 1973.~~

Date 8-8-1974

Subdivision No. 1143

.....
Council Clerk

* Complete, or delete if inapplicable.

Signatures, seals and statements of intention to create easements or restrictions as to user.

Mandy Olivia Bourke

As Mortgage under Mortgage No. N269462 BANK OF NEW SOUTH WALES consents to the within Strata Plan.
Dated at Sydney this THIRD day of SEPTEMBER 1974.
SIGNED for and on behalf of
Bank of New South Wales
by LYNDON EBSWORTH NALDER
who is personally known to me.

For and on behalf of
BANK OF NEW SOUTH WALES
Acting Assistant Chief Security Officer
Mortgage.

[redacted]

C.

NEW SOUTH WALES

Application No.4836

Prior Titles Vol.7174 Fols.12 (20 , 121)

RTIFICATE OF TITLE

OPERTY ACT, 1900, as amended.

PR

Vol. 9729 Fol. 94

1st Edition issued 17-6-1964

J617269

08729094

(Page 1) Vol. 9729 Fol. 94

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.

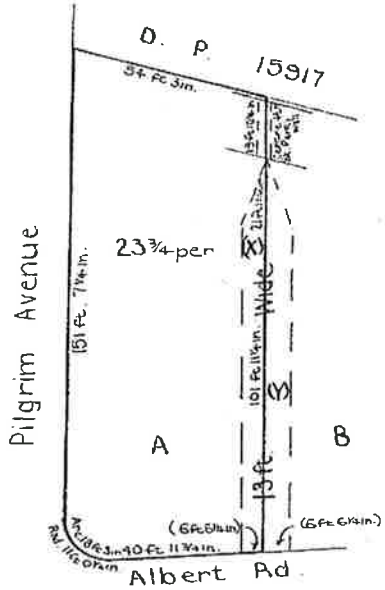
Witness

CANCELLED

Registrar-General.

SEE AUTO FOLIO

PLAN SHOWING LOCATION OF LAND



Scale: 40 feet to one inch

J617269 #8.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot A in Deposited Plan 100558 in the Municipality of Strathfield, Parish of Concord and County of Cumberland being part of Portion 246 granted to Thomas Rowley on 9-8-1803.

Registrar General.

FIRST SCHEDULE (Continued overleaf)

JOHN JAMES TIMBS of Strathfield, Naval Officer.

Registrar General.

SECOND SCHEDULE (Continued overleaf)

GR1 1. Reservations and conditions, if any, contained in the Crown Grant above referred to

RC 2. Right of carriageway created by Transfer No.G328684P affecting the part of the land above described designated (X) in the plan hereon.

RC2 3. Right of carriageway created by Transfer No.G328684P appurtenant to the land above described affecting the piece of land designated (Y) in the plan hereon.

EC 4. Cross easements created by Transfer No.G328684P (Section 181B Conveyancing Act, 1919) affecting the party wall on the common boundary of Lots A and B shown in the plan hereon.

Registrar General.

ST 1609 V. C. N. PUGHT, GOVERNMENT PRINTER

R833324P
V878641

Vol. 9729 Fol 94

FIRST SCHEDULE (continued)

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

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
M U(Vn) Mortgage R833324P	R833324P Mortgage.	—— V878641	to Permanent Nominees (Aust.) Limited Variation. Registered 21.8.1985.	30-5-1980				

(Page 2 of 2 pages)

FORM No. 183A

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

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: A/100558

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 9729 FOL 94

Recorded	Number	Type of Instrument	C.T. Issue
29/7/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
16/8/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
18/6/1990	Z65517	DISCHARGE OF MORTGAGE	
18/6/1990	Z65518	MORTGAGE	EDITION 1
19/7/1995	O391651	DISCHARGE OF MORTGAGE	EDITION 2
19/8/2003	9887763	TRANSFER	
19/8/2003	9887764	MORTGAGE	EDITION 3
27/2/2009	AE527097	DISCHARGE OF MORTGAGE	
27/2/2009	AE527098	TRANSFER	
27/2/2009	AE527099	MORTGAGE	EDITION 4
20/9/2013	AI36621	CAVEAT	
3/9/2014	AI865083	WITHDRAWAL OF CAVEAT	
3/9/2014	AI837430	DISCHARGE OF MORTGAGE	
3/9/2014	AI837432	TRANSFER	EDITION 5
8/7/2015	AJ581884	MORTGAGE	EDITION 6

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

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

TRANSFER

New South Wales
Real Property Act 1900

9887763R

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

STAMP DUTY

Office of State Revenue use only

NEW SOUTH WALES DUTY
24-06-2003 0001461633-001
SECTION 18(2)
DUTY $ **********2.00

(A) **TORRENS TITLE**

FOLIO IDENTIFIER A/100558

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
4458	WESTPAC 1 KING ST CONCORD WEST 02 9767 1241 Reference: NPFLC - MT	T TW (Sheriff)

(C) **TRANSFEROR**

JOHN JAMES TIMBS

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 2,080,000.00 and as regards

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

(F) **SHARE TRANSFERRED** WHOLE

(G) Encumbrances (if applicable):

(H) **TRANSFEREE**

JOHANT (NOMINEES) PTY. LIMITED ACN 102 321 335

(I) **TENANCY:**

(J) **DATE** 25 July 2003.

I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: T. CURRAN
Address of witness: 10 MAHON PLACE
HUGHES
A.C.T. 2605

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

Signature of transferor:

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

Signature:

Signatory's name: JOSEPH VOSNAKIS
Signatory's capacity: transferee's solicitor

All handwriting must be in block capitals.

Req:R984488 /Doc:DL AE527098 /Rev:03-Mar-2009 /Sts:NO.OK /Pgs:ALL /Prt:22-Jan-2018 08:46 /Seq:1 of 1
Ref:strathfield /Src:M

213

Form: 01T
Licence: 01-05-025
Licensee: LEAP Legal Software Pty Limited
Firm name: Shanahans Solicitors

TRANSFER

New South Wales
Real Property Act 1900

AE527098N

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

STAMP DUTY Office of State Revenue use only

Office of State Revenue
NSW Treasury
Client No: 1051545 715
Duty: 82— Trans No: 5292308
Asst details:

(A) TORRENS TITLE If appropriate, specify the part transferred
A/100558

(B) LODGED BY

Delivery Box	Name, Address or DX and Telephone	CODES
49R	LLPN: 126043B ANZ BANK C/- ESPREON DX 885 SYDNEY 02 9210 0953 Reference (optional): KANG	T TW (Sheriff)

(C) TRANSFEROR Johant (Nominees) Pty Limited ACN 102 321 335

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of $2,075,000.00 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):

OFFICE OF STATE REVENUE (TREASURY) 1411509 ALTERATION NOTED

(H) Gabriel Hung Won KANG and Christina Kyoung Hee KANG
HAM

JZ

(I) **TENANCY:** Joint Tenants

DATE

(J) 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) appears(s) below pursuant to the authority specified.

Corporation: Johant (Nominees) Pty Limited ACN 102 321 335
Authority: section 127 of the Corporations Act 2001

Signature of authorised person:

Name of authorised person: John Sarcasmo
Office held: Director

Signature of authorised person:

Name of authorised person: Anthony Sarcasmo
Office held: Director/Secretary

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

Signature:

Signatory's name: Peter Ronis
Signatory's capacity: Solicitor for the Transferee

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

LAND REGISTRY SERVICES **Title Search**

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: A/100558

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	6	8/7/2015

LAND

LOT A IN DEPOSITED PLAN 100558
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM DP100558

FIRST SCHEDULE

CONVERTIA PTY LTD (T AI837432)

SECOND SCHEDULE (5 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 G328684 RIGHT OF CARRIAGEWAY AFFECTING THE PART OF THE LAND ABOVE DESCRIBED SHOWN AS RIGHT OF WAY IN DP100558
3 G328684 RIGHT OF CARRIAGEWAY APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE LAND SHOWN AS RIGHT OF WAY WITHIN LOT B IN DP100558
4 G328684 CROSS EASEMENTS (S.181B CONVEYANCING ACT, 1919) AFFECTING THE PARTY WALL ON THE COMMON BOUNDARY OF LOTS A AND B IN DP100558
5 AJ581884 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: B/100558

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 7176 FOL 88

Recorded	Number	Type of Instrument	C.T. Issue
2/9/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
22/12/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
21/6/1991	Z731712	MORTGAGE	EDITION 1
17/5/2002	8607317	NOTICE OF DEATH	EDITION 2
28/5/2004	AA674788	DISCHARGE OF MORTGAGE	
28/5/2004	AA674789	TRANSFER	
28/5/2004	AA674790	MORTGAGE	EDITION 3
27/2/2009	AE527596	DISCHARGE OF MORTGAGE	
27/2/2009	AE527597	TRANSFER	
27/2/2009	AE527598	MORTGAGE	EDITION 4
20/9/2013	AI36623	CAVEAT	
3/9/2014	AI865082	WITHDRAWAL OF CAVEAT	
3/9/2014	AI837431	DISCHARGE OF MORTGAGE	
3/9/2014	AI837432	TRANSFER	EDITION 5
8/7/2015	AJ581884	MORTGAGE	EDITION 6

*** END OF SEARCH ***

Form: 02ND
Release: 1.1
www.lpi.nsw.gov.au

NOTICE OF DEATH

New South Wales
Section 101 Real Property Act 1

8607317J

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

(A) **LAND**

Torrens Title: B/100558

(B) **REGISTERED DEALING**

Number	Torrens Title

(C) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODE
644B	P.I.COM PTY LTD Reference: T/S	ND

(D) **DECEASED JOINT TENANT**

MARIA PRESTIPINO

(E) **SURVIVING JOINT TENANT**

ANGELO PRESTIPINO

(F) I, the surviving joint tenant, apply to be registered as proprietor of the interest of the deceased joint tenant in the above land specified above.

(G) **STATUTORY DECLARATION**

I, ANGELO PRESTIPINO
solemnly and sincerely declare that the deceased joint tenant—

1. died on 9/12/2001 ; and
2. is identical with the deceased named in the DEATH CERTIFICATE No. 44239/2001 accompanying this application.

and I certify this application correct for the purposes of the Real Property Act 1900.

Made and subscribed at STRATHFIELD, NSW in NSW on 3-5-02. in the presence of—

Signature of witness: TERRY SHANAHAN

Signature of declarant:

Name of witness:

Address of witness: 15 PARNELL ST STRATHFIELD

Qualification of witness: Solicitor

cl Prod 25a
15/5/02

All handwriting must be in block capitals.
Office use only—
Evidence sighted/sighted and returned:

Req:R984708 /Doc:DL AA674789 /Rev:01-Jun-2004 /Sts:SC.OK /Pgs:ALL /Prt:22-Jan-2018 09:14 /Seq:1 of 1
Ref:strathfield /Src:M

Form: 01T
Release: 2.1
www.lpi.nsw.gov.au

TRANSFER

New South Wales
Real Property Act 1900

AA674789K

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

STAMP DUTY Office of State Revenue use only

NEW SOUTH WALES DUTY
10-02-2004 0001830860-001
TRANSFER- TRANSFER
DUTIABLE AMOUNT $ ******1,950,000.00
DUTY $ *********92,740.00

(A) **TORRENS TITLE** Folio Identifier:B/100558

(B) **LODGED BY**

Delivery Box	Name, Address or DX and Telephone	CODES
448B	WESTPAC 1 KING ST LONGUEST WEST Reference: NPFLC-MT	T TW (Sheriff)

(C) **TRANSFEROR** Angelo Prestipino

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 1,950,000.00 and as regards

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

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** Johant (Nominees) Pty Limited (ACN 102 321 335)

(I) **TENANCY:**

(J) **DATE** 28 January 2004

I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: Terry Shanahan
Address of witness: 15 Parnell St, Strathfield, NSW

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

Signature of transferor: A. Prestipino

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: Johant (Nominees) Pty Limited
Authority: section 127 Corporations Act 2001

Signature of authorised person:

Name of authorised person: John Sarcasmo
Office held: DIRECTOR

Signature of authorised person:

Name of authorised person: Anthony Sarcasmo
Office held: DIRECTOR

All handwriting must be in block capitals.

Form: 01T
Licence: 01-05-025
Licensee: LEAP Legal Software Pty Limited
Firm name: Shanahans Solicitors

TRANSFER

New South Wales
Real Property Act 1900

AE527597T

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

STAMP DUTY Office of State Revenue use only

Office of State Revenue
NSW Treasury
Client No: 1051545 715
Duty: $2 Trans No: $2923299
Asst details:

(A) TORRENS TITLE If appropriate, specify the part transferred
B/100558

(B) LODGED BY

Delivery Box	Name, Address or DX and Telephone	CODES
49R	LLPN: 126043B ANZ BANK C/- ESPREON DX 885 SYDNEY 02 9210 0963	T TW (Sheriff)
	Reference (optional): Kang	

(C) TRANSFEROR Johant (Nominees) Pty Limited ACN 102 321 335

(D) CONSIDERATION The transferor acknowledges receipt of the consideration of $2,075,000.00 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):

OFFICE OF STATE REVENUE (N.S.W. TREASURY) 1405 1411509 ALTERATION NOTED

(H) Gabriel Hung Won KANG and Christina Kyoung Hee KANG

HHM

JZ

TENANCY: Joint Tenants

DATE

(J) 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) appears(s) below pursuant to the authority specified.

Corporation: Johant (Nominees) Pty Limited ACN 102 321 335
Authority: section 127 of the Corporations Act 2001

Signature of authorised person:

Name of authorised person: John Sarcasmo
Office held: Director

Signature of authorised person:

Name of authorised person: Anthony Sarcasmo
Office held: Director/Secretary

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

Signature:

Signatory's name: Peter Ronis
Signatory's capacity: Solicitor for the Transferee

LAND REGISTRY SERVICES

Title Search

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: B/100558

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	6	8/7/2015

LAND

LOT B IN DEPOSITED PLAN 100558
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM DP100558

FIRST SCHEDULE

CONVERTIA PTY LTD (T AI837432)

SECOND SCHEDULE (5 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 G328684 RIGHT OF CARRIAGEWAY AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 G328684 RIGHT OF CARRIAGEWAY APPURTENANT TO THE LAND ABOVE DESCRIBED AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 G328684 CROSS EASEMENTS (S181 B CONVEYANCING ACT, 1919) AFFECTING THE PARTY WALL(S) SHOWN ON THE COMMON BOUNDARY OF LOTS B & A IN DP100558
5 AJ581884 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: 3/15917

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 4279 FOL 64

Recorded	Number	Type of Instrument	C.T. Issue
18/2/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
13/2/1990		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
6/2/1991	DP807807	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: 4/15917

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 4361 FOL 163

Recorded	Number	Type of Instrument	C.T. Issue
18/2/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
11/4/1990		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
6/2/1991	DP807807	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: 100/807807

First Title(s): OLD SYSTEM
Prior Title(s): 3-4/15917 VOL 5330 FOL 164

Recorded	Number	Type of Instrument	C.T. Issue
6/2/1991	DP807807	DEPOSITED PLAN	FOLIO CREATED EDITION 1
4/7/2005	AB570908	LEASE	EDITION 2
23/11/2016	AK932578	TRANSFER	
23/11/2016	AK932586	LEASE	EDITION 3

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

LAND REGISTRY SERVICES **Title Search**

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 100/807807

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	3	23/11/2016

LAND

LOT 100 IN DEPOSITED PLAN 807807
AT STRATHFIELD
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM DP807807

FIRST SCHEDULE

VER CUSTODIAN PTY LIMITED (T AK932578)

SECOND SCHEDULE (3 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 AB570908 LEASE TO EUREKA OPERATIONS PTY LIMITED EXPIRES: 28/4/2024.
AK932586 CONCURRENT LEASE
3 AK932586 LEASE TO VIVA ENERGY AUSTRALIA PTY LTD EXPIRES: 7/8/2032. OPTION TO PURCHASE. OPTION OF RENEWAL: 10 YEARS AND SIX FURTHER OPTIONS OF 10 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: 8/15917

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 4708 FOL 79

Recorded	Number	Type of Instrument	C.T. Issue
21/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
27/2/1990		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
30/1/2014	AI340131	CAVEAT	
12/4/2014	AI507788	WITHDRAWAL OF CAVEAT	
12/4/2014	AI507789	TRANSFER	
12/4/2014	AI507790	MORTGAGE	EDITION 1

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

LAND REGISTRY SERVICES **Title Search**

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 8/15917

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	1	12/4/2014

LAND

LOT 8 IN DEPOSITED PLAN 15917
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM DP15917

FIRST SCHEDULE

CONVERTIA PTY LTD (T AI507789)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 AI507790 MORTGAGE TO WESTPAC BANKING CORPORATION

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

LAND REGISTRY SERVICES

Historical Title

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
16/1/2018 8:28PM

FOLIO: 9/15917

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 5268 FOL 12

Recorded	Number	Type of Instrument	C.T. Issue
18/12/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
27/6/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
3/11/1999	6312967	TRANSFER	
3/11/1999	6312968	MORTGAGE	EDITION 1
25/10/2001	8059673	DISCHARGE OF MORTGAGE	
25/10/2001	8059674	MORTGAGE	EDITION 2
8/2/2008	AD754559	DISCHARGE OF MORTGAGE	
8/2/2008	AD754560	TRANSFER	EDITION 3
7/5/2013	AH714623	TRANSFER	EDITION 4

*** END OF SEARCH ***

strathfield PRINTED ON 16/1/2018

Form: 97-01T
Licence: 421X/0862/97

TRANSFER

New South Wales
Real Property Act 1900

6312967K

Office of State Revenue use only

NEW SOUTH WALES DUTY
22-10-1999 [illegible]
SECTION 10(2)
DUTY $ [illegible].00

(A) LAND TRANSFERRED
If appropriate, specify the share or part transferred.

9/15917

(B) LODGED BY

LTO Box 421X	~~HUNT & HUNT~~ CSB ~~Level 15 Gateway~~ ~~1 Macquarie Place, Sydney NSW 2000~~ ~~DX 214 Sydney (02) 9391.3000~~ Reference: MRB 215649018

(C) TRANSFEROR OLGA SAVITSKY

(D) acknowledges receipt of the consideration of $440.000.00 and as regards the land specified above transfers to the transferee an estate in fee simple.

(E) Encumbrances (if applicable) 1. 2. 3. 4.

(F) TRANSFEREE

T **TS** (s713 LGA) **TW** (Sheriff)	SUNIL LAL CHHABRA and SHIKHA LAL CHHABRA **TENANCY:** Joint JC

(G)

CHECKED BY (LTO use) .....

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

DATE: 22-10-99.

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

.....
Signature of Witness

CHRISTINE ABERDEEN
Name of Witness (BLOCK LETTERS)

86 De Little Cct, GREENWAY ACT 2900
Address of Witness

BY HER ATTORNEY IGOR SAVITSKY PURSUANT TO POWER OF ATTORNEY NO. 94 BOOK 4246

I. Savitsky
Signature of Transferor

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

.....
Signature of Witness

MAX LAL
Name of Witness (BLOCK LETTERS)

93 LUCAS RD, BURWOOD
Address of Witness

Nikola Lal Chalmers
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

Form: 01T
Release: 3.4
www.lands.nsw.gov.au

(1)

TRANSFER

New South Wales
Real Property Act 1900

AD754560A

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

STAMP DUTY Office of State Revenue use only

NEW SOUTH WALES DUTY
18-01-2008 0004805358-001
SECTION 18(2)
DUTY $ **********2.00

(A) **FOLIO OF THE REGISTER** 9/15917

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and LLPN if any	CODES
1W	Joseph Metledge 108 Redmyre Road Strathfield NSW 2135 Reference:	T TW (Sheriff)

(C) **TRANSFEROR** Sunil Lal Chhabra AND Shikha Lal Chhabra

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 1,000,000.00 and as regards

(E) **ESTATE** the above folio of the Register transfers to the transferee an estate in fee simple

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** Alpha House Pty Ltd ACN: 003 383 097

(I) **TENANCY:**

DATE

(J) I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness:

Name of witness: FRANK PORTOLESI
Address of witness: 8 CHURCHILL AVE, STRATHFIELD

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

Signature of transferor: Sunil Lal Chhabra

I certify that the person(s) signing opposite, with whom I am personally acquainted or as to whose identity I am otherwise satisfied, signed this instrument in my presence.

Signature of witness: A. Metledge

Name of witness: Albert Metledge
Address of witness: 108 Redmyre Road
Strathfield NSW 2135

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

Signature of transferee: J.M. Metledge JOSEPH METLEDGE
DIRECTOR

M Metledge MARIE METLEDGE
DIRECTOR

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.
0709

DEPARTMENT OF LANDS
LAND AND PROPERTY INFORMATION DIVISION

LAND REGISTRY SERVICES **Title Search**

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 9/15917

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	4	7/5/2013

LAND

LOT 9 IN DEPOSITED PLAN 15917
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM DP15917

FIRST SCHEDULE

BETA HOUSE PTY LTD (T AH714623)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

[redacted]ICATE OF TITLE

NEW SOUTH WALES — PROPERTY ACT, 1900

12347137

Appln. No. 4836 and 30144

Prior Title Vol. 6427 Fols. 144 and 145

Vol. 12347 Fol. 137

Edition issued 6-2-1974

(Page 1) Vol. 12347 Fol. 137

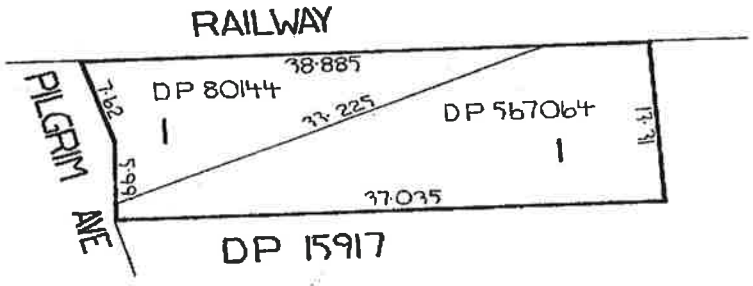
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Jan Watson
Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED



N269461
~~N296441~~

AREA: 499·6 m²
REDUCTION RATIO 1:400

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 80144 and Lot 1 in Deposited Plan 567064 in Municipality of Strathfield Parish of Concord County of Cumberland being part of Portion 246 granted to Thomas Rowley on 9-8-1803.

FIRST SCHEDULE

ILONA BANDI of Strathfield, Married Woman and JOHN BANDI of Belfields, Storekeeper, as Tenants in Common in equal shares.

SECOND SCHEDULE

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

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar General
[illegible] occurring on SP8785 [illegible] to be registered without [illegible]					
This deed is cancelled as to whole. New Certificates of Title have issued 24-10-1974 for lots in Strata Plan No. 8785 as follows:- Lots 1-2 Vol. 12589 Fol. 95-96 respectively. CP Vol 12589 Fol 94.					
[signature] REGISTRAR GENERAL					

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION
Mortgage	N269462	24.4.1973	to Bank of New South Wales	26.2.1974	[signature]	

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

N269946
CT 22-7-7
SP8785 3/10/74

(Page 1) Vol. 12589 Fol. 94

NEW SOUTH WALES

CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900

CANCELLED

Vol. 12589 Fol. 94

SEE AUTO FOLIO

Appln.Nos.4836 and 30144 OS

Prior Title Vol.12347 Fol.137

Edition Issued 24-10-1974

I certify that The Proprietors - Strata Plan No. 8785 is the registered proprietor of an Estate in Fee Simple in the common property in the strata scheme relating to the Strata Plan so numbered, within the land herein described, subject nevertheless to the exceptions encumbrances and interests recorded hereon and to the reservations and conditions, if any, contained in the Crown grant.

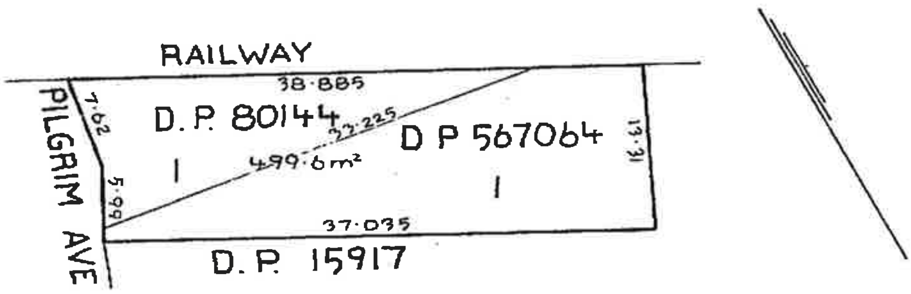
S

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

REDUCTION RATIO 1 : 400



ADDRESS FOR SERVICE OF NOTICES

2 PILGRIM AVE., STRATHFIELD. 2135.

LAND REFERRED TO

Lot 1 in Deposited Plan 80144 and Lot 1 in Deposited Plan 567064 at Strathfield in the Municipality of Strathfield Parish of Concord and County of Cumberland, being part of Portion 246 granted to Thomas Rowley on 9-8-1803.

GRY EXCEPTIONS ENCUMBRANCES AND INTERESTS REFERRED TO

~~1. Mortgage No.N269462 to Bank of New South Wales. Entered 26-2-1974.~~ Nil. Discharged Q628250 Reg. Gen. 29-4-1975 Q962M7509

SCHEDULE OF UNIT ENTITLEMENT Aggregate unit entitlement: 2

Lot No.	Strata Plan No.	Unit Entitlement
1	8785	1
2	"	1

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.

RECORDINGS (continued)

NATURE	INSTRUMENT NUMBER	DATE	PARTICULARS	ENTERED	Signature of Registrar General	CANCELLATION

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

AFTER REGN
REFER ALL
DLGS & PLANS
TO ST30

LAND REGISTRY SERVICES **Title Search**

Information Provided Through
John McLaren & Co (NSW)
Ph. 02 9231 4872 Fax. 02 9233 6557

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: CP/SP8785

SEARCH DATE	TIME	EDITION NO	DATE
22/1/2018	9:40 AM	-	-

VOL 12589 FOL 94 IS THE CURRENT CERTIFICATE OF TITLE

LAND

THE COMMON PROPERTY IN THE STRATA SCHEME BASED ON STRATA PLAN 8785 WITHIN THE PARCEL SHOWN IN THE TITLE DIAGRAM

AT STRATHFIELD
LOCAL GOVERNMENT AREA STRATHFIELD
PARISH OF CONCORD COUNTY OF CUMBERLAND
TITLE DIAGRAM SHEET 1 SP8785

FIRST SCHEDULE

THE OWNERS - STRATA PLAN NO. 8785
ADDRESS FOR SERVICE OF DOCUMENTS:
2 PILGRIM AVENUE
STRATHFIELD 2135

SECOND SCHEDULE (2 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
* 2 ATTENTION IS DIRECTED TO BY-LAWS SET OUT IN SCHEDULE 2 STRATA SCHEMES MANAGEMENT REGULATION 2016

SCHEDULE OF UNIT ENTITLEMENT (AGGREGATE: 2)

STRATA PLAN 8785

LOT	ENT	LOT	ENT
1	1	2	1

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

APPENDIX E
Borehole Logs

BOREHOLE: BH101M

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Contamination | Remediation | Geotechnical

Project	Preliminary Site Investigation with Limited Sampling			Sheet	1 OF 1
Location	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW			Date Started	23/1/18
Position	Refer to Figure 2			Date Completed	23/1/18
Job No.	E23668.E01	Contractor	HartGeo	Logged CM	Date:
Client	Convertia Pty Ltd	Drill Rig	Drill Rig	Checked NF	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID / Static Water Level
AD/T	-	GWNE	0	0.15				-	Concrete			BH101M
					ES 0.30-0.40 m PID = 0.9 ppm				FILL: Silt; fine, brown to dark brown, small sub-angular to angular gravels, no odour.			
			1		ES 1.00-1.10 m PID = 0.4 ppm					D		
				1.80				C	Weathered claystone and laminites; fine to medium grained, red, sub-angular gravels, no odour.			
			2	2.50				CI-CH	Clay: medium to high plasticity, light grey, no odour.		-	
					ES 2.80-2.90 m PID = 0.4 ppm							
			3							M		
			4									
			5	5.20					Hole Terminated at 5.20 m T-C bit refusal. Borehole converted to monitoring well.			
			6									

Cuttings
Casing
Bentonite
Sand
Screen

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH102

eiaustralia
Contamination | Remediation | Geotechnical

Project	Preliminary Site Investigation with Limited Sampling			Sheet	1 OF 1
Location	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW			Date Started	23/1/18
Position	Refer to Figure 2			Date Completed	23/1/18
Job No.	E23668.E01	Contractor	HartGeo	Logged CM	Date:
Client	Convertia Pty Ltd	Drill Rig	Drill Rig	Checked NF	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0		ES 0.30-0.40 m PID = 1.2 ppm			-	FILL: Silty Clay; low to medium plasticity, dark brown to grey, with ash, no odour.			FILL
			1	1.00	ES 1.00-1.10 m PID = 1.5 ppm			C	Clay: high plasticity, red clays with brown fine silts, no odour.	M	-	NATURAL
			2	2.80					Hole Terminated at 2.80 m Target depth reach. Backfilled with drilling spoils to surface.			
			3									
			4									
			5									
			6									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH103

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Contamination | Remediation | Geotechnical

Project	Preliminary Site Investigation with Limited Sampling			Sheet	1 OF 1
Location	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW			Date Started	23/1/18
Position	Refer to Figure 2			Date Completed	23/1/18
Job No.	E23668.E01	Contractor	HartGeo	Logged CM	Date:
Client	Convertia Pty Ltd	Drill Rig	Drill Rig	Checked NF	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
AD/T	-	GWNE	0					-	FILL: Silty Clay; low to medium plasticity, light to dark grey, sub-angular to angular gravels, with trace rootlets, no odour.			FILL
				0.50	ES 0.40-0.50 m PID = 1.3 ppm			CH	Silty CLAY: high plasticity, red to orange clays, with light grey to brown fine silt, trace rootlets, no odour.			RESIDUAL SOIL
			1		ES 1.00-1.10 m PID = 1.3 ppm					M	-	
				2.00					Hole Terminated at 2.00 m Target depth reach. Backfilled with drilling spoils to surface.			
			2									
			3									
			4									
			5									
			6									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH104M

eiaustralia
Contamination | Remediation | Geotechnical

Project	Preliminary Site Investigation with Limited Sampling			Sheet	1 OF 1
Location	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW			Date Started	23/1/18
Position	Refer to Figure 2			Date Completed	23/1/18
Job No.	E23668.E01	Contractor	HartGeo	Logged CM	Date:
Client	Convertia Pty Ltd	Drill Rig	Drill Rig	Checked NF	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS
AD/T	-	GWNE	0					-	FILL: Silty Clay; low to medium plasticity, dark brown, with trace sub-angular gravels, no odour.			ID Static Water Level BH104M
					ES 0.30-0.40 m PID = 0.9 ppm							
				0.80				C	Clay: high plasticity, red to orange, no odour.			
			1									
					ES 1.50-1.60 m PID = 1.6 ppm					M	-	
			2									
			3									
			4	4.30								
									Hole Terminated at 4.30 m T-C bit refusal. Borehole converted to monitoring well.			
			5									
			6									

BH104M

Bentonite
Casing

Sand

Screen

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

BOREHOLE: BH105M

eiaustralia
Contamination | Remediation | Geotechnical

Project	Preliminary Site Investigation with Limited Sampling			Sheet	1 OF 1
Location	2-6 Pilgrim Avenue & 9-13 Albert Road, Strathfield NSW			Date Started	23/1/18
Position	Refer to Figure 2			Date Completed	23/1/18
Job No.	E23668.E01	Contractor	HartGeo	Logged CM	Date:
Client	Convertia Pty Ltd	Drill Rig	Drill Rig	Checked NF	Date:
		Inclination	-90°		

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	PIEZOMETER DETAILS ID / Static Water Level
AD/T	-	GWNE	0	0.10	ES QD1 QT1 0.30-0.40 m PID = 1.2 ppm			-	Concrete			BH105M
			1						FILL: Clay; high plasticity, light grey / brown to dark brown, with small sub-angular gravels, no odour.	W		Cuttings; Casing; Bentonite
			2	2.50				OH	Shale: highly weathered, dark brown to grey, with high plasticity clays, no odour.		-	
			3							M		Sand; Screen
			4	4.90								
			5						Hole Terminated at 4.90 m T-C bit refusal. Borehole converted to monitoring well.			
			6									

This borehole log should be read in conjunction with EI Australia's accompanying standard notes.

APPENDIX F
Field Data Sheets

Site Inspection Card - CLM Projects
Form OP 005 (Rev 2)

EI Australia
Suite 6.01, 55 Miller Street
PYRMONT, NSW, 2009
ABN 42 909 129 957
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

Project Number:	E23688	Engineer Name:	CM
Date:	23-01-18	Time ON Site:	6:50 am
Travel Time:	1.5 hrs	Time OFF Site:	12:00 pm

Site Address/Location: 2-6 Pilgrim Ave + 9-14 Albert Rd, Strathfield NSW

Climatic Conditions: cloudy

Current Site Uses: 3x res apartment buildings, 2x houses + Coles service station

Surrounding Land Uses:

North: Railway corridor

South: Mixed-use apartment building + individual dwellings

East: Mixed-use apartment buildings

West: Apartment buildings (2-3-storeys) / old town houses

Current Site Condition

Buildings Structures:

- ☑ slab on ground
- ☐ suspended slab
- ☐ basement ..... Level(s)
- ☐ sub-stations
- ☐ service pits / sumps
- ☑ potential ACM
- ☑ potential lead paint
- ☑ accessible soils (locations)
- ☐ Other (please decsribe):

Soil / Vegetation (overgrown, distressed, bare soil patches):

Overgrown veg across all properties, patchy ~~sand~~ grasses green plants, overgrown weeds

Condition of concrete, bitumen roading, flooring etc.:

poor condt. cracked / deformed concrete driveways across all

Evidence of USTs / UPSS Infrastructure:

Fill points only evident @ service station (9-Albert Rd) ⇒ see photo

Evidence of Groundwater Monitoring Wells:

—

Presence of Waste / Rubbish / Stockpiles:

General litter across all properties - remnants of demo waste / brick rubble @ 11-13 Albert Rd.

Unusual Odours: @ 11-13 Albert Rd - burst sewer along driveway
↳ strong effluent odour present.

Signed: ~~CMadigan~~ Name: Clare Madigan Date: 23-1-18

Site Inspection Card - CLM Projects
Form OP-005 (Rev 2)

EI Australia
Suite 6.01, 55 Miller Street
PYRMONT, NSW, 2009
ABN 42 909 129 957
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

Site Topography (slope of site, surface water, drainage, closest receptor etc.)

see aerial.

Hazardous materials / activities: (presence of asbestos, solid or liquid hazardous materials, infrastructure)

Potential Acm noted in b/yard of 1 dwelling along Pilgrim Ave
* Potential Acm also noted on buildings awnings

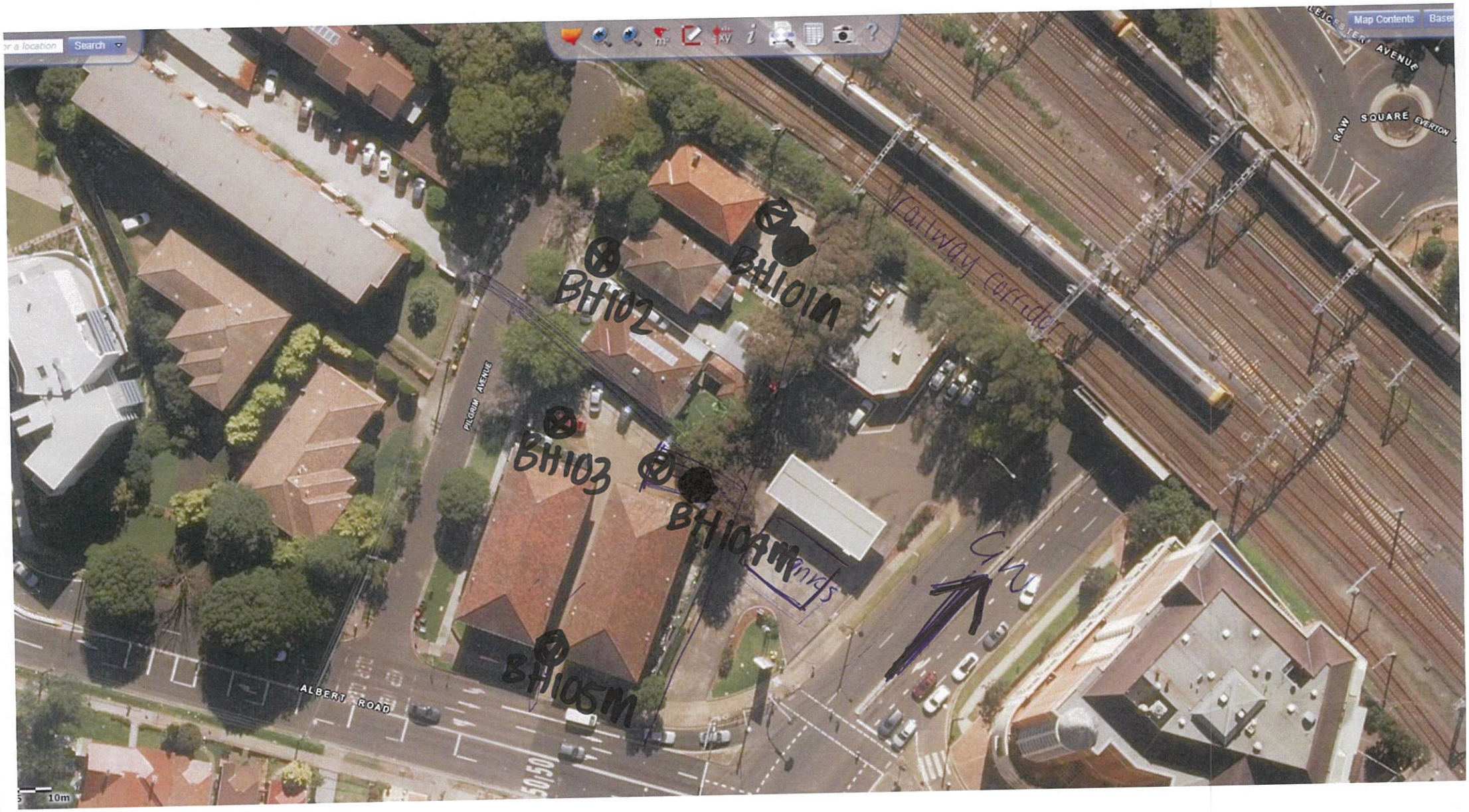
Anecdotal Information:

Cleaner @ 11-13 Albert Rd stated there was an issue w illegal dumping @ the property. (7:15am)

Notes:

(John Mowad - convertia (0417 899 500)) — contact

Signed: ~~CMadigan~~ **Name:** Clare Madigan **Date:** 23-1-18


Search
Map Contents
BH102
BH101m
BH103
BH104m
BH105m
PILGRIM AVENUE
ALBERT ROAD
RAW SQUARE
AVENUE
10m

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Contamination | Remediation | Geotechnical

Borehole Log

Suite 6.01, 55 Miller Street,
Pyrmont, NSW 2009
Ph: (02) 9516 0722
Fax: (02) 9516 0744
service@eiaustralia.com.au

BH No: BH101M
Sheet: 1 of 5
Job No: E23688.E01

Client: Convertia Pty Ltd
Principal:
Project: PSI w limited sampling
Location: 2-6 Pilgrim Ave & 9-14 Albert Rd, Strathfield
Equipment: Ute mounted drill rig
Diameter:

Started: 23-01-18
Finished: 23-01-18
Logged: CM
Checked:
Slope: -90°
Bearing: --
RL Surface:
Datum:

drilling information					material information					
method	water	samples	sample method / QC	depth (m)	PID reading	material code	material description soil type, particle characteristics or fines plasticity, colour, secondary and minor components	moisture + density/consistency	Odour (Y/N)	well construction
AD/T GW, NE		0.3 0.4		0.0 0.15	0.9 ppm		concrete FILL: silt, m-d brown, fine with gravels sub-ang to ang, small (PZ)	–	N	
				1.8m			(N2) Nat: shale - weathered claystone + laminites red, f-m grain w sub-ang gravels	m	N	
		1.0 1.1			0.4 ppm					
				2.5m			clays - light grey, m-H plas	m	N	
		2.8 2.9			0.4 ppm					
				5.2m			Refusal in shale: weathered light grey * well installed dry *			

method
AS auger screw*
AD auger drill*
RR roller/tricone
W washbore
CB claw or blade bit
HA hand auger
D diatube
V V-bit
T TC-bit
NMLC NMLC core
NQ, HQ, PQ wireline core
*bit shown by suffix e.g. ADV

odour index
HC hydrocarbon
S solvent
Su sulfur

odour strength index
w weak
m moderate
s strong
vs very strong

weathering
XW extremely weatherd
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh

water
level at date / time
inflow
complete outflow
partial outflow

Classification symbols and soil description based on unified classification system. Refer accompanying description sheets for further information.

moisture
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

grain size
vf very fine
f fine
m medium
c coarse

consistency
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable

density index
VL very loose
L loose
MD medium dense
D dense
VD very dense

material boundaries
known boundary
probable boundary
possible boundary

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Borehole Log

Suite 6.01, 55 Miller Street,
Pyrmont, NSW 2009
Ph: (02) 9516 0722
Fax: (02) 9516 0744
service@eiaustralia.com.au

BH No: BH102
Sheet: 2 of 5
Job No: E23688

Client: Convertia Pty Ltd
Principal:
Project: PSI w limited sampling
Location: Pilgrim Ave - Albert Rd, Strathfield NSW
Equipment: Drill Rig – ute mounted
Diameter:
Started: 23-01-18
Finished: 23-01-18
Logged: CM
Checked:
Slope: -90°
Bearing: --
RL Surface:
Datum:

drilling information					material information					
method	water	samples	sample method / QC	depth (m)	PID reading	material code	material description soil type, particle characteristics or fines plasticity, colour, secondary and minor components	moisture + density/consistency	Odour (Y/N)	well construction
AD/T	GWNE	0.3 0.4			1.2 ppm		silty Clay – l-m plas dark brown-grey with ash (FI)	m	N	
				1m						
		1.0 1.1			1.5 ppm		(Ni) – Clay – H plas, Red with brown silt.	m	N	
				2.3m			End BH – TDR			

method

AS	auger screw*
AD	auger drill*
RR	roller/tricone
W	washbore
CB	claw or blade bit
HA	hand auger
D	diatube
V	V-bit
T	TC-bit
NMLC	NMLC core
NQ, HQ, PQ	wireline core

*bit shown by suffix e.g. ADV

odour index

HC	hydrocarbon
S	solvent
Su	sulfur

odour strength index

w	weak
m	moderate
s	strong
vs	very strong

weathering

XW	extremely weatherd
HW	highly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

water

level at date / time
inflow
complete outflow
partial outflow

Classification symbols and soil description based on unified classification system. Refer accompanying description sheets for further information.

moisture

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

grain size

vf	very fine
f	fine
m	medium
c	coarse

consistency

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable

density index

VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

material boundaries

known boundary
probable boundary
possible boundary

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Borehole Log

Suite 6.01, 55 Miller Street,
Pyrmont, NSW 2009
Ph: (02) 9516 0722
Fax: (02) 9516 0744
service@eiaustralia.com.au

BH No: BH103
Sheet: 3 of 5
Job No: E23688

Client: Convertia Pty Ltd.
Principal:
Project: PSI with limited sampling
Location: Pilgrim Ave + Albert Rd, Strathfield NSW
Equipment: Ute mounted drill rig
Diameter:
Slope: -90°
Bearing: --

Started: 23-01-18
Finished: 23-01-18
Logged: CM
Checked:
RL Surface:
Datum:

drilling information					material information					
method	water	samples	sample method / QC	depth (m)	PID reading	material code	material description soil type, particle characteristics or fines plasticity, colour, secondary and minor components	moisture + density/consistency	Odour (Y/N)	well construction
A/DT	GNNE	0.4 -0.5			1.3 ppm		Fi - silty CLAY - light to dark grey, l-m plas, w gravels + trace rootlets	m	N	
				0.5			N - silty CLAY - H plas, light grey/brown silty with red/orange clay, w trace rootlets	m	N	
		1.0 -1.1			1.3 ppm					
				2.0m			TOR			

method

AS	auger screw*
AD	auger drill*
RR	roller/tricone
W	washbore
CB	claw or blade bit
HA	hand auger
D	diatube
V	V-bit
T	TC-bit
NMLC	NMLC core
NQ, HQ, PQ	wireline core

*bit shown by suffix e.g. ADV

odour index

HC	hydrocarbon
S	solvent
Su	sulfur

odour strength index

w	weak
m	moderate
s	strong
vs	very strong

weathering

XW	extremely weatherd
HW	highly weathered
MW	moderately weathered
SW	slightly weathered
FR	fresh

water

level at date / time
inflow
complete outflow
partial outflow

Classification symbols and soil description based on unified classification system. Refer accompanying description sheets for further information.

moisture

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

grain size

vf	very fine
f	fine
m	medium
c	coarse

consistency

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable

density index

VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

material boundaries

known boundary
probable boundary
possible boundary

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Suite 6.01, 55 Miller Street,
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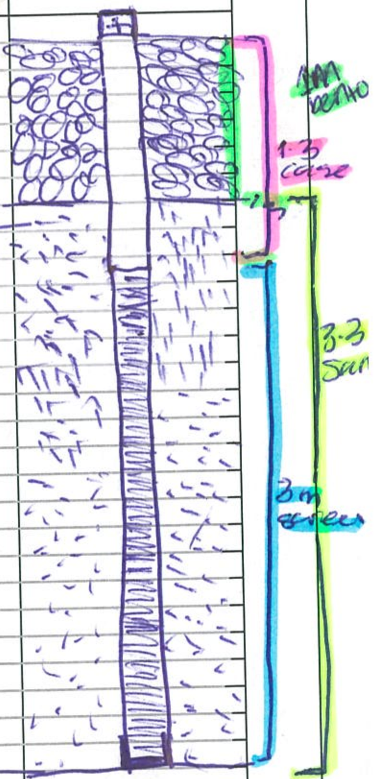
Ph: (02) 9516 0722
Fax: (02) 9516 0744
service@eiaustralia.com.au

Borehole Log

BH No: BH104M
Sheet: 4 of 5
Job No: E23688

Client: Convertia P/L			Started: 23-01-18
Principal:			Finished: 23-01-18
Project: PSI w lim sampling			Logged: CM
Location: Pilgrim Ave + Albert Rd Strathfield			Checked:
Equipment: Ute mounted drill rig	Slope: -90°		RL Surface:
Diameter:	Bearing: --		Datum:

method	water	samples	sample method / QC	depth (m)	PID reading	material code	material description (soil type, particle characteristics or fines plasticity, colour, secondary and minor components)	moisture + density/consistency	Odour (Y/N)	well construction
AD/T	GWNE	0.3-0.4			0.9 ppm		Fill: Silty CLAY: dark brown l-m plas with trace gravels sub-ang (small)	m	N	
				0.8			'N'. Clay - red, H plas	m	N	
		1.5-1.6			1.6 ppm					
				4.3			Refusal in rock			
							(*well installed dry*)			



method		odour index		weathering	
AS	auger screw*	HC	hydrocarbon	XW	extremely weatherd
AD	auger drill*	S	solvent	HW	highly weathered
RR	roller/tricone	Su	sulfur	MW	moderately weathered
W	washbore			SW	slightly weathered
CB	claw or blade bit			FR	fresh
HA	hand auger				
D	diatube				
V	V-bit				
T	TC-bit				
NMLC	NMLC core				
NQ, HQ, PQ	wireline core				

*bit shown by suffix e.g. ADV

odour strength index

w	weak
m	moderate
s	strong
vs	very strong

water

- level at date / time
- inflow
- complete outflow
- partial outflow

Classification symbols and soil description based on unified classification system. Refer accompanying description sheets for further information.

moisture

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

grain size

vf	very fine
f	fine
m	medium
c	coarse

consistency

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable

density index

VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

material boundaries

- known boundary
- probable boundary
- possible boundary

eiaustralia
Contamination | Remediation | Geotechnical

Suite 6.01, 55 Miller Street,
Pyrmont, NSW 2009
Ph: (02) 9516 0722
Fax: (02) 9516 0744
service@eiaustralia.com.au

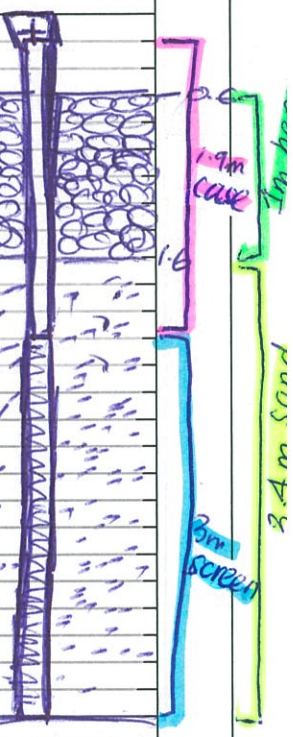
Borehole Log

BH No: BH105M
Sheet: 5 of 5
Job No: E23668

Client: Convertia P/L
Principal:
Project: PSI w lim sampling
Location: Pilgrim Ave + Albert Rd, Strathfield NSW
Equipment: Ute mounted drill rig
Diameter:
Slope: -90°
Bearing: --

Started: 23-01-18
Finished: 23-01-18
Logged: CM
Checked:
RL Surface:
Datum:

drilling information					material information					
method	water	samples	sample method / QC	depth (m)	PID reading	material code	material description soil type, particle characteristics or fines plasticity, colour, secondary and minor components	moisture + density/consistency	Odour (Y/N)	well construction
AD/T		0.3 QD1 0.4 QT1			1.2 ppm		100mm concrete Fill: clays + plas, light grey to brown / dark brown, w small sub-ang gravels (F3)	W	N	
				2.5			Shale — dark brown to grey with clays, weathered	M	N	
				4.9			Refusal in Rock NB: [Well installed dry]			
							[Note Rinsate batch no. B4000049.001]			



method
AS auger screw*
AD auger drill*
RR roller/tricone
W washbore
CB claw or blade bit
HA hand auger
D diatube
V V-bit
T TC-bit
NMLC NMLC core
NQ, HQ, PQ wireline core
*bit shown by suffix e.g. ADV

odour index
HC hydrocarbon
S solvent
Su sulfur

odour strength index
w weak
m moderate
s strong
vs very strong

weathering
XW extremely weatherd
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh

water
level at date / time
inflow
complete outflow
partial outflow

Classification symbols and soil description based on unified classification system. Refer accompanying description sheets for further information.

moisture
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

grain size
vf very fine
f fine
m medium
c coarse

consistency
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable

density index
VL very loose
L loose
MD medium dense
D dense
VD very dense

material boundaries
known boundary
probable boundary
possible boundary

eiaustralia
Contamination | Remediation | Geotechnical

FIELD DATA SHEET

Project: E23688. E01 Sheet: 1 of 1
Site Address: 2-6 Pilgrim Ave & 9-14 Albert Rd, Strath Engineer: CM
Client: Convertia Pty Ltd. Sampling Date: 23-01-18

Monitoring Bore ID: BH101M Date Drilled: 23-1-18 Date Developed: — Drilled Depth: 5.2 mBGL Hole Size: ____mm Measured Bore Depth: 5.0 mBTOC
Bore Location Description: Located @ 2 Pilgrim Ave, near railway corridor TOC Stickup −0.1m m (Relative to Ground Level)
Date Purged: _____ Purging Method: _____
SWL Before Purging (m BTOC): _____ Time of SWL: _____ Sampling Method: _____ Time Sample Taken: _____

Volume Purged (L)	Temp (°C)	pH (units)	EC (µs/cm) OR mS/cm	TDS (ppm)	DO (mg/L)	Redox (mV)	Odours (Y / N)	Sample Description
								* well was dry when installed

Monitoring Bore ID: BH104M Date Drilled: 23-1-18 Date Developed: _____ Drilled Depth: 4.3 mBGL Hole Size: ____mm Measured Bore Depth: 4.3 mBTOC
Bore Location Description: Located NE corner of 9-13 Albert Rd. TOC Stickup −0.1 m (Relative to Ground Level)
Date Purged: _____ Purging Method: _____
SWL Before Purging (m BTOC): _____ Time of SWL: _____ Sampling Method: _____ Time Sample Taken: _____

Volume Purged (L)	Temp (°C)	pH (units)	EC (µs/cm) OR mS/cm	TDS (ppm)	DO (mg/L)	Redox (mV)	Odours (Y / N)	Sample Description
								* well was installed dry

Monitoring Bore ID: BH105M Date Drilled: 23-1-18 Date Developed: — Drilled Depth: 4.9 mBGL Hole Size ____mm Measured Bore Depth: 4.9 mBTOC
Bore Location Description: Driveway fronting 11-13 Albert Road TOC Stickup −0.1 m (Relative to Ground Level)
Date Purged: _____ Purging Method: _____
SWL Before Purging (m BTOC): _____ Time of SWL: _____ Sampling Method: _____ Time Sample Taken: _____

Volume Purged (L)	Temp (°C)	pH (units)	EC (µs/cm) OR mS/cm	TDS (ppm)	DO (mg/L)	Redox (mV)	Odours (Y / N)	Sample Description
								* well was installed dry

APPENDIX G
Chain of Custody and Sample Receipt Forms

Sheet 1 of 2

Site: 2-6 Pilgrim Avenue + 9-14 Albert Road, Strathfield NSW

Project No: E23668

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	Analysis: HM[A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM[A] /TRH/BTEX/PAHs	HM[A] /TRH/BTEX	TRH/BTEX/Lead	[redacted]/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS	HOLD			TCLP PAHs	TCLP HM[A]	TCLP HM[B]
BH101_0.3-0.4	1	J/ZLB	23-1-18	AM		X		X																
BH102_0.3-0.4	2																							
BH103_0.4-0.5	3																							
BH104_0.3-0.4	4																							
BH105_0.3-0.4	5																							
BH101_1.0-1.1	6								X															
BH102_1.0-1.1	7																							
BH103_1.0-1.1	8																							
BH104_1.5-1.6	9																							
BH101_2.8-2.9	10																	X						
QD1	11	J								X														
QTB	12	VC										X												

Comments

HM[A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- ☐ Standard
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 72 Hours
- ☐ Other_____

Investigator: I attest that these samples were collected in accordance w[illegible] EI field sampling procedures

Sampler's Cc

Container Typ
J= solvent wasl
S= solvent was
P= natural HDF
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

SGS EHS Alexandria Laboratory
SE174651 COC
Received: 23 – Jan – 2018

Sampler's Name (EI): CM

Print: Clare Madigan

Signature: CMadigan

Date: 23-1-18

Received by (SGS):

Print:

Signature:

Date: 23/1/18 @ 3:30

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Sheet 2 of 2

Site: 2-6 Pilgrim Ave + 9-14 Albert Rd, Strathfield NSW

Project No: E23668

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	Analysis: HM [A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM [A] /TRH/BTEX/PAHs	HM [A] /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS	HOLD			TCLP PAHs	TCLP HM [A]	TCLP HM [B]
QR1	13	J, S+VC	23-1-18	AM	X					X														
QR8		↓	↓	↓	↓														X					

Comments

HM [A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- ☐ Standard
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 72 Hours
- ☐ Other_____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Comments:

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jaR
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Sampler's Name (EI): CM

Print: Clare Madigan

Signature: CMadigan

Date: 23-1-18

Received by (SGS):

Print:

Signature:

Date: 23/1/18 @ 3:30

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

SAMPLE RECEIPT ADVICE

SE174651

CLIENT DETAILS

Contact	Clare Madigan
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	clare.madigan@eiaustralia.com.au
Project	**E23668 2-6 Pilgrim Ave & 9-14 Albert Rd**
Order Number	**E23668**
Samples	13

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 23/1/2018
Report Due	Mon 29/1/2018
SGS Reference	**SE174651**

SUBMISSION DETAILS

This is to confirm that 13 samples were received on Tuesday 23/1/2018. Results are expected to be ready by COB Monday 29/1/2018. Please quote SGS reference SE174651 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	12 Soil, 1 Water
Date documentation received	23/1/2018	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.6°C	Sufficient sample for analysis	Yes
Turnaround time requested	Three Days		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

One water sample has been placed on hold.

SAMPLE RECEIPT ADVICE

SE174651

CLIENT DETAILS

Client EI AUSTRALIA

Project E23668 2-6 Pilgrim Ave & 9-14 Albert Rd

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH101_0.3-0.4	29	14	26	11	7	10	12	8
002	BH102_0.3-0.4	29	14	26	11	7	10	12	8
003	BH103_0.4-0.5	29	14	26	11	7	10	12	8
004	BH104_0.3-0.4	29	14	26	11	7	10	12	8
005	BH105_0.3-0.4	29	14	26	11	7	10	12	8
006	BH101_1.0-1.1	-	-	26	-	7	10	12	8
007	BH102_1.0-1.1	-	-	26	-	7	10	12	8
008	BH103_1.0-1.1	-	-	26	-	7	10	12	8
009	BH104_1.5-1.6	-	-	26	-	7	10	12	8
011	QD1	-	-	-	-	7	10	12	8
012	QTB	-	-	-	-	-	-	12	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE174651

CLIENT DETAILS

Client EI AUSTRALIA

Project E23668 2-6 Pilgrim Ave & 9-14 Albert Rd

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH101_0.3-0.4	2	1	1	-	-
002	BH102_0.3-0.4	2	1	1	-	-
003	BH103_0.4-0.5	2	1	1	-	-
004	BH104_0.3-0.4	2	1	1	-	-
005	BH105_0.3-0.4	2	1	1	-	-
006	BH101_1.0-1.1	-	1	1	-	-
007	BH102_1.0-1.1	-	1	1	-	-
008	BH103_1.0-1.1	-	1	1	-	-
009	BH104_1.5-1.6	-	1	1	-	-
011	QD1	-	1	1	-	-
012	QTB	-	-	1	-	-
013	QR1	-	-	-	12	8

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE174651

CLIENT DETAILS

Client EI AUSTRALIA

Project E23668 2-6 Pilgrim Ave & 9-14 Albert Rd

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water
013	QR1	1	7	10

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Sheet 1 of 1

Site: 2-6 Pilgrim Ave + 9-14 Albert Rd. Strathfield NSW

Project No: E2268

Laboratory: **Envirolab Services**
12 Ashley Street,
CHATSWOOD NSW 2067
P: 02 9910 6200

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	Sample Matrix: WATER	Sample Matrix: SOIL	Sample Matrix: OTHERS (i.e. Fibro, Paint, etc.)	Analysis: HM [A] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	Analysis: HM [A] /TRH/BTEX/PAHs	Analysis: HM [A] /TRH/BTEX	Analysis: TRH/BTEX/Lead	Analysis: TRH/BTEX	Analysis: PAHs	Analysis: VOCs	Analysis: Asbestos	Analysis: pH / CEC (cation exchange)	Analysis: pH / EC (electrical conductivity)	Analysis: sPOCAS	Analysis: TCLP PAHs	Analysis: TCLP HM [A]	Analysis: TCLP HM [B]
1- QT1	1	J	23-1-18	AM		X				X												

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 183782
Date Received: 23/01/18
Time Received: 17:30
Received by: DF
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Comments

HM [A]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- ☐ Standard
- ☐ 24 Hours
- ☐ 48 Hours
- ☒ 72 Hours
- ☐ Other_____

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Comments:

Container Type:
J= solvent washed, acid rinsed,Teflon sealed, glass jaR
S= solvent washed, acid rinsed glass bottle
P= natural HDPE plastic bottle
VC= glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Sampler's Name (EI):	Received by (Envirolab):
CM	
Print: Clare Madigan	Print: DF
Signature: CMadigan	Signature:
Date: 23-1-18	Date: 23.1.18 17:30

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	EI Australia
Attention	Lab Email

Sample Login Details

Your reference	E2268, Strathfield
Envirolab Reference	183782
Date Sample Received	23/01/2018
Date Instructions Received	23/01/2018
Date Results Expected to be Reported	29/01/2018

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	1 Soil
Turnaround Time Requested	3 days
Temperature on Receipt (°C)	8.9
Cooling Method	Ice Pack
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:

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	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	Acid Extractable metalsin soil
QT1	✓	✓	✓

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.

APPENDIX H
Laboratory Analytical Reports

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Clare Madigan
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	clare.madigan@eiaustralia.com.au
Project	**E23668 2-6 Pilgrim Ave & 9-14 Albert Rd**
Order Number	**E23668**
Samples	13

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE174651 R0**
Date Received	23/1/2018
Date Reported	29/1/2018

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin .

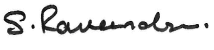
SIGNATORIES

Akheeqar Beniameen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemist

Dong Liang
Metals/Inorganics Team Leader

Ly Kim Ha
Organic Section Head



Ravee Sivasubramaniam
Hygiene Team Leader

VOC's in Soil [AN433] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	QTB SOIL - 23/1/2018 SE174651.012
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.2	0.6	<0.1	0.4	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.2	1.2	0.2	0.8	<0.1
Pyrene	mg/kg	0.1	0.3	1.3	0.2	0.7	<0.1
Benzo(a)anthracene	mg/kg	0.1	0.2	0.8	0.1	0.5	<0.1
Chrysene	mg/kg	0.1	0.2	0.6	<0.1	0.4	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	0.8	0.1	0.6	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.4	<0.1	0.2	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	0.7	0.1	0.4	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.5	<0.1	0.3	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.4	<0.1	0.2	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0.9	<0.2	0.5	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.3	1.0	<0.3	0.6	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.3	1.0	<0.2	0.6	<0.2
Total PAH (18)	mg/kg	0.8	1.4	7.4	<0.8	4.4	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.4	7.4	<0.8	4.4	<0.8

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	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)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 24/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 25/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Arsenic, As	mg/kg	3	13	5	9	8	6
Cadmium, Cd	mg/kg	0.3	0.3	0.6	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	18	9.3	11	14	7.6
Copper, Cu	mg/kg	0.5	120	140	27	67	6.3
Lead, Pb	mg/kg	1	530	2800	72	350	41
Nickel, Ni	mg/kg	0.5	8.1	8.9	9.7	4.9	1.4
Zinc, Zn	mg/kg	0.5	92	190	46	83	9.1

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
Arsenic, As	mg/kg	3	14	6	4	7	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	22	31	11	19	6.7
Copper, Cu	mg/kg	0.5	19	14	12	17	9.3
Lead, Pb	mg/kg	1	33	110	36	39	30
Nickel, Ni	mg/kg	0.5	<0.5	1.4	1.0	0.8	1.5
Zinc, Zn	mg/kg	0.5	13	22	18	13	16

Mercury in Soil [AN312] Tested: 25/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Mercury	mg/kg	0.05	**0.15**	**0.43**	<0.05	**0.08**	<0.05

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Moisture Content [AN002] Tested: 25/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
% Moisture	%w/w	0.5	8.9	18	13	12	18

PARAMETER	UOM	LOR	BH101_1.0-1.1 SOIL - 23/1/2018 SE174651.006	BH102_1.0-1.1 SOIL - 23/1/2018 SE174651.007	BH103_1.0-1.1 SOIL - 23/1/2018 SE174651.008	BH104_1.5-1.6 SOIL - 23/1/2018 SE174651.009	QD1 SOIL - 23/1/2018 SE174651.011
% Moisture	%w/w	0.5	14	14	14	16	17

PARAMETER	UOM	LOR	QTB SOIL - 23/1/2018 SE174651.012
% Moisture	%w/w	0.5	<0.5

Fibre Identification in soil [AN602] Tested: 25/1/2018

PARAMETER	UOM	LOR	BH101_0.3-0.4 SOIL - 23/1/2018 SE174651.001	BH102_0.3-0.4 SOIL - 23/1/2018 SE174651.002	BH103_0.4-0.5 SOIL - 23/1/2018 SE174651.003	BH104_0.3-0.4 SOIL - 23/1/2018 SE174651.004	BH105_0.3-0.4 SOIL - 23/1/2018 SE174651.005
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

VOCs in Water [AN433] Tested: 24/1/2018

PARAMETER	UOM	LOR	QR1 WATER - 23/1/2018 SE174651.013
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene	µg/L	0.5	<0.5

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 24/1/2018

PARAMETER	UOM	LOR	QR1 WATER - 23/1/2018 SE174651.013
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 25/1/2018

PARAMETER	UOM	LOR	QR1 WATER - 23/1/2018 SE174651.013
TRH C10-C14	µg/L	50	<50
TRH C15-C28	µg/L	200	<200
TRH C29-C36	µg/L	200	<200
TRH C37-C40	µg/L	200	<200
TRH >C10-C16 (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C36	µg/L	450	<450
TRH C10-C40	µg/L	650	<650
TRH >C10-C16 (F2) - Naphthalene	µg/L	60	<60

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 29/1/2018

PARAMETER	UOM	LOR	QR1 WATER - 23/1/2018 SE174651.013
Arsenic, As	µg/L	1	<1
Cadmium, Cd	µg/L	0.1	<0.1
Chromium, Cr	µg/L	1	<1
Copper, Cu	µg/L	1	<1
Lead, Pb	µg/L	1	<1
Nickel, Ni	µg/L	1	<1
Zinc, Zn	µg/L	5	**71**

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 29/1/2018

PARAMETER	UOM	LOR	QR1 WATER - 23/1/2018 SE174651.013
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid , mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser . Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS /ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Clare Madigan
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	clare.madigan@eiaustralia.com.au
Project	**E23668 2-6 Pilgrim Ave & 9-14 Albert Rd**
Order Number	**E23668**
Samples	5

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE174651 R0**
Date Received	23 Jan 2018
Date Reported	29 Jan 2018

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin .

SIGNATORIES

Akheeqar Beniameen
Chemist

Bennet Lo
Senior Organic Chemist/Metals Chemis

Dong Liang
Metals/Inorganics Team Leader

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Hygiene Team Leader

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE174651.001	BH101_0.3-0.4	Soil	110g Clay,Soil,Rocks	23 Jan 2018	No Asbestos Found	<0.01
SE174651.002	BH102_0.3-0.4	Soil	285g Clay,Soil,Rocks	23 Jan 2018	No Asbestos Found	<0.01
SE174651.003	BH103_0.4-0.5	Soil	154g Clay,Soil,Rocks	23 Jan 2018	No Asbestos Found	<0.01
SE174651.004	BH104_0.3-0.4	Soil	150g Clay,Sand,Soil, Rocks	23 Jan 2018	No Asbestos Found	<0.01
SE174651.005	BH105_0.3-0.4	Soil	230g Clay,Soil,Rocks	23 Jan 2018	No Asbestos Found	<0.01

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples , Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602	The sample can be reported “no asbestos found at the reporting limit of 0.1 g/kg” (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no ‘respirable’ fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service .
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos -containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

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

CERTIFICATE OF ANALYSIS 183782

Client Details

Client	EI Australia
Attention	Lab Email
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E2268, Strathfield**
Number of Samples	1 Soil
Date samples received	23/01/2018
Date completed instructions received	23/01/2018

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	29/01/2018
Date of Issue	25/01/2018

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Leon Ow, Chemist
Steven Luong, Senior Chemist

Authorised By

David Springer, General Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		183782-1
Your Reference	UNITS	QT1
Date Sampled		23/01/2018
Type of sample		Soil
Date extracted	-	24/01/2018
Date analysed	-	25/01/2018
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	111

svTRH (C10-C40) in Soil		
Our Reference		183782-1
Your Reference	UNITS	QT1
Date Sampled		23/01/2018
Type of sample		Soil
Date extracted	-	24/01/2018
Date analysed	-	24/01/2018
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	83

Acid Extractable metals in soil		
Our Reference		183782-1
Your Reference	UNITS	QT1
Date Sampled		23/01/2018
Type of sample		Soil
Date prepared	-	24/01/2018
Date analysed	-	24/01/2018
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	6
Copper	mg/kg	4
Lead	mg/kg	22
Mercury	mg/kg	<0.1
Nickel	mg/kg	2
Zinc	mg/kg	10

Moisture		
Our Reference		183782-1
Your Reference	UNITS	QT1
Date Sampled		23/01/2018
Type of sample		Soil
Date prepared	-	24/01/2018
Date analysed	-	25/01/2018
Moisture	%	17

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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.
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-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)-BTEX 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)-BTEX 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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/01/2018	[NT]	[NT]	[NT]	[NT]	24/01/2018	[NT]
Date analysed	-			25/01/2018	[NT]	[NT]	[NT]	[NT]	25/01/2018	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	110	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	108	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	<1	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	116	[NT]	[NT]	[NT]	[NT]	115	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/01/2018	[NT]	[NT]	[NT]	[NT]	24/01/2018	[NT]
Date analysed	-			24/01/2018	[NT]	[NT]	[NT]	[NT]	24/01/2018	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	119	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	114	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	119	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	114	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
Surrogate o-Terphenyl	%		Org-003	91	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/01/2018	[NT]	[NT]	[NT]	[NT]	24/01/2018	[NT]
Date analysed	-			24/01/2018	[NT]	[NT]	[NT]	[NT]	24/01/2018	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	107	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	98	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	111	[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: <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.

APPENDIX I
QA/QC Assessment

I1 QUALITY CONTROL PROGRAM

I1.1 INTRODUCTION

For the purpose of assessing the quality of data presented in this Contaminant Delineation Report, EI collected field QC samples for analysis. The primary laboratory, SGS Australia Pty Ltd (SGS) and secondary laboratory, Envirolab Services Pty Ltd (Envirolab) also prepared and analysed internal QC samples. Details of the field and laboratory QC samples, with the allowable data acceptance ranges are presented in **Table I-1**.

Table I-1 Sampling Data Quality Indicators

Data Quality Objective	Data Quality Indicator	Acceptable Range
Accuracy	Field – Trip blank (laboratory prepared) Laboratory – Laboratory control spike and matrix spike	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Precision	Field – Blind replicate and spilt duplicate Laboratory – Laboratory duplicate and matrix spike duplicate	< 30 % relative percentage difference (RPD [%]) Prescribed by the laboratories
Representativeness	Field – Trip blank (laboratory prepared) Laboratory – Method blank	< laboratory limit of reporting (LOR) Prescribed by the laboratories
Completeness	Completion (%)	-

I1.2 CALCULATION OF RELATIVE PERCENTAGE DIFFERENCE (RPD)

The RPD values were calculated using the following equation:

$$RPD = \frac{|C_O - C_R|}{[(C_O + C_R)/2]} \times 100$$

Where:

C_O = Concentration obtained for the primary sample; and

C_R = Concentration obtained for the blind replicate or split duplicate sample.

I2 FIELD QA/QC DATA EVALUATION

The field quality assurance/quality control (QA/QC) soil samples collected during the investigations works were as follows:

- Blind field duplicate (soil);
- Inter laboratory duplicate (soil);

- Trip blank;
- Trip spike; and
- Rinsate Blank.

Analytical results for the tested soil QA/QC samples collected during sampling, including the calculated RPD values between primary and duplicate samples, are presented in **Table T-2.**

I2.1 SOIL INVESTIGATION & SOIL VALIDATION

I2.1.1 Blind Field Duplicate

Sample QD1 was collected as a blind field duplicate (BFD) of the primary sample BH105M_0.3-0.4. The preparation of the BFD sample involved the collection of a bulk quantity of soil from the same sampling point without mixing, before dividing the material into identical sampling vessels. The duplicate sample was then presented blind to the primary laboratory (SGS) to avoid any potential analytical bias. The BFD soil sample was analysed for TRHs, BTEX, selected heavy metals.

Calculated RPD values were found to be within the Data Acceptance Criteria.

I2.1.2 Inter Laboratory Duplicate

One inter laboratory duplicate (ILD) being QT1 was collected from primary sample BH105M_0.3-0.4. The preparation of the ILD sample was identical to the BFD sample as described above and analysed for TRHs, BTEX and selected heavy metals. The RPD values calculated for the ILD sample was found to be within the Data Acceptance Criteria.

Furthermore, soil samples were placed immediately into jars following sampling to reduce the loss of volatiles from samples. Analytical results indicated that the samples collected were representative of the soils present at respective sampling locations.

I2.1.3 Trip Blank

One trip blank (TB) sample being sample TB1 was prepared by the primary laboratory, and analysed for TRHs and BTEX by the primary laboratory. The soil TB sample results were reported below the laboratory LOR, indicating that satisfactory sample transport and handling conditions were achieved.

I2.1.4 Trip Spike

One trip spike (TS) sample was unable to be tested due to limited availability at the time of sampling and laboratory analysis.

I2.1.5 Rinsate Blank

One rinsate blank (RB) sample being sample QR1 was submitted to the primary laboratory for TRHs, BTEX and selected heavy metals. The RB sample results were reported below the laboratory LOR. However, overall soil analytical results obtained for investigation are all well below adopted investigation criteria, and in light of this, the soil data collected is considered to be suitable for interpretation.

I2.3 Assessment of Field QA/QC Data

All soil samples were classified in the field with respect to soil/fill characteristics and any observable signs of contamination based on visual and odour assessment.

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

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

Based on the results of the field QA/QC data, EI considered the field QA/QC programme carried out during the remediation and validation works to be appropriate and the results to be acceptable.

I3.1 LABORATORY QA/QC

I3.1 Laboratory Accreditation

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

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

I3.2 SAMPLE HOLDING TIMES

All sample holding times were generally within standard environmental protocols as tabulated in **Appendix J.**

I3.3 TEST METHODS AND PRACTICAL QUANTITATION LIMITS (PQLS)

Practical Quantitation Limits for the tested parameters during the assessments of soils are presented in **Appendix J**.

I3.4 METHOD BLANKS

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

I3.5 LABORATORY DUPLICATE SAMPLES

The Laboratory Duplicate Samples (LDS) for the analysis batches indicated several exceedances for the following:

- Phenanthrene (107%), Fluoranthrene (108%), Pyrene (116%), Benzo(a)anthracene (97%), Chrysene (76%), Benzo(b+j)fluoranthene (79%), benzo(a)pyrene (98%), Carcinogenic PAHs, BaP TEQ <LOR=0 (92%), Carcinogenic PAHs, BaP TEQ <LOR=LOR/2 (86%) and Total PAHs (18) within sample SE174411RE.005 exceeding the acceptable ranges and the DAC due to RPD failed acceptance criteria due to sample heterogeneity;
- Lead (113%) from SE174711.004 exceeded the acceptable range due to RPD failed acceptance criteria due to sample heterogeneity; and
- Finally mercury (70%) from SE174711.003 exceeded the acceptable range due to recovery failed acceptance criteria due to sample heterogeneity.

I3.6 LABORATORY CONTROL SAMPLES

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

I3.7 MATRIX SPIKES

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

I3.8 CONCLUDING REMARK

Based on the laboratory QA/QC results, EI considers that all the data confirms that the analytical results for soil laboratory testing were valid and useable for interpretation purposes.

APPENDIX J
Laboratory QA/QC Policies and DQO's

STATEMENT OF QA/QC PERFORMANCE

SE174651 R0

CLIENT DETAILS

Contact	Clare Madigan
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	clare.madigan@eiaustralia.com.au
Project	**E23668 2-6 Pilgrim Ave & 9-14 Albert Rd**
Order Number	**E23668**
Samples	13

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE174651 R0**
Date Received	23 Jan 2018
Date Reported	29 Jan 2018

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	Mercury in Soil	1 item
	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	10 items
	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	12 Soil, 1 Water
Date documentation received	23/1/2018	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	7.6°C	Sufficient sample for analysis	Yes
Turnaround time requested	Three Days		

HOLDING TIME SUMMARY

SE174651 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Fibre Identification in soil

Method: ME-(AU)-[ENV]AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140267	23 Jan 2018	23 Jan 2018	23 Jan 2019	25 Jan 2018	23 Jan 2019	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140267	23 Jan 2018	23 Jan 2018	23 Jan 2019	25 Jan 2018	23 Jan 2019	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140267	23 Jan 2018	23 Jan 2018	23 Jan 2019	25 Jan 2018	23 Jan 2019	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140267	23 Jan 2018	23 Jan 2018	23 Jan 2019	25 Jan 2018	23 Jan 2019	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140267	23 Jan 2018	23 Jan 2018	23 Jan 2019	25 Jan 2018	23 Jan 2019	29 Jan 2018

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE174651.013	LB140306	23 Jan 2018	23 Jan 2018	20 Feb 2018	29 Jan 2018	20 Feb 2018	29 Jan 2018

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018
QD1	SE174651.011	LB140247	23 Jan 2018	23 Jan 2018	20 Feb 2018	25 Jan 2018	20 Feb 2018	29 Jan 2018

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
QD1	SE174651.011	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018
QTB	SE174651.012	LB140234	23 Jan 2018	23 Jan 2018	06 Feb 2018	25 Jan 2018	30 Jan 2018	29 Jan 2018

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

HOLDING TIME SUMMARY

SE174651 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QD1	SE174651.011	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018
QD1	SE174651.011	LB140235	23 Jan 2018	23 Jan 2018	22 Jul 2018	25 Jan 2018	22 Jul 2018	29 Jan 2018

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE174651.013	LB140276	23 Jan 2018	23 Jan 2018	22 Jul 2018	29 Jan 2018	22 Jul 2018	29 Jan 2018

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140163	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE174651.013	LB140242	23 Jan 2018	23 Jan 2018	30 Jan 2018	25 Jan 2018	06 Mar 2018	29 Jan 2018

HOLDING TIME SUMMARY

SE174651 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field Sampling Guide for Containers and Holding Time” (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QTB	SE174651.012	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE174651.013	LB140176	23 Jan 2018	23 Jan 2018	30 Jan 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH101_0.3-0.4	SE174651.001	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_0.3-0.4	SE174651.002	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_0.4-0.5	SE174651.003	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_0.3-0.4	SE174651.004	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH105_0.3-0.4	SE174651.005	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH101_1.0-1.1	SE174651.006	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH102_1.0-1.1	SE174651.007	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH103_1.0-1.1	SE174651.008	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
BH104_1.5-1.6	SE174651.009	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QD1	SE174651.011	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018
QTB	SE174651.012	LB140161	23 Jan 2018	23 Jan 2018	06 Feb 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE174651.013	LB140176	23 Jan 2018	23 Jan 2018	30 Jan 2018	24 Jan 2018	05 Mar 2018	29 Jan 2018

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	99
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	116
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	107
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	102
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	113

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	100
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	98
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	102
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	94
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	96
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	78
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	80
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	90
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	100
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH101_0.3-0.4	SE174651.001	%	70 - 130%	100
	BH102_0.3-0.4	SE174651.002	%	70 - 130%	98
	BH103_0.4-0.5	SE174651.003	%	70 - 130%	102
	BH104_0.3-0.4	SE174651.004	%	70 - 130%	94
	BH105_0.3-0.4	SE174651.005	%	70 - 130%	96
	BH101_1.0-1.1	SE174651.006	%	70 - 130%	94
	BH102_1.0-1.1	SE174651.007	%	70 - 130%	98
	BH103_1.0-1.1	SE174651.008	%	70 - 130%	90
	BH104_1.5-1.6	SE174651.009	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	BH101_0.3-0.4	SE174651.001	%	70 - 130%	78
	BH102_0.3-0.4	SE174651.002	%	70 - 130%	80
	BH103_0.4-0.5	SE174651.003	%	70 - 130%	90
	BH104_0.3-0.4	SE174651.004	%	70 - 130%	100
	BH105_0.3-0.4	SE174651.005	%	70 - 130%	94
	BH101_1.0-1.1	SE174651.006	%	70 - 130%	98
	BH102_1.0-1.1	SE174651.007	%	70 - 130%	82
	BH103_1.0-1.1	SE174651.008	%	70 - 130%	102
	BH104_1.5-1.6	SE174651.009	%	70 - 130%	100
d5-nitrobenzene (Surrogate)	BH101_0.3-0.4	SE174651.001	%	70 - 130%	104
	BH102_0.3-0.4	SE174651.002	%	70 - 130%	96
	BH103_0.4-0.5	SE174651.003	%	70 - 130%	94
	BH104_0.3-0.4	SE174651.004	%	70 - 130%	90
	BH105_0.3-0.4	SE174651.005	%	70 - 130%	94
	BH101_1.0-1.1	SE174651.006	%	70 - 130%	88
	BH102_1.0-1.1	SE174651.007	%	70 - 130%	96
	BH103_1.0-1.1	SE174651.008	%	70 - 130%	92
	BH104_1.5-1.6	SE174651.009	%	70 - 130%	92

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	99
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	116
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	107
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	102
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	113

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	82
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	87
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	84
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	93

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH105_0.3-0.4	SE174651.005	%	60 - 130%	80
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	75
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	93
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	79
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	78
	QD1	SE174651.011	%	60 - 130%	92
	QTB	SE174651.012	%	60 - 130%	83
d4-1,2-dichloroethane (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	97
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	73
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	88
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	112
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	87
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	98
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	104
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	83
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	90
	QD1	SE174651.011	%	60 - 130%	76
	QTB	SE174651.012	%	60 - 130%	103
d8-toluene (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	78
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	77
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	73
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	77
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	82
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	77
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	74
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	77
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	74
	QD1	SE174651.011	%	60 - 130%	73
	QTB	SE174651.012	%	60 - 130%	78
Dibromofluoromethane (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	77
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	78
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	85
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	109
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	84
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	74
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	82
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	98
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	77
	QD1	SE174651.011	%	60 - 130%	98
	QTB	SE174651.012	%	60 - 130%	77

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE174651.013	%	40 - 130%	101
d4-1,2-dichloroethane (Surrogate)	QR1	SE174651.013	%	40 - 130%	112
d8-toluene (Surrogate)	QR1	SE174651.013	%	40 - 130%	105
Dibromofluoromethane (Surrogate)	QR1	SE174651.013	%	40 - 130%	114

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	82
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	87
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	84
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	93
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	80
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	75
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	93
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	79
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	78
	QD1	SE174651.011	%	60 - 130%	92
d4-1,2-dichloroethane (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	97
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	73

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	BH103_0.4-0.5	SE174651.003	%	60 - 130%	88
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	112
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	87
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	98
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	104
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	83
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	90
	QD1	SE174651.011	%	60 - 130%	76
d8-toluene (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	78
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	77
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	73
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	77
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	82
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	77
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	74
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	77
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	74
	QD1	SE174651.011	%	60 - 130%	73
Dibromofluoromethane (Surrogate)	BH101_0.3-0.4	SE174651.001	%	60 - 130%	77
	BH102_0.3-0.4	SE174651.002	%	60 - 130%	78
	BH103_0.4-0.5	SE174651.003	%	60 - 130%	85
	BH104_0.3-0.4	SE174651.004	%	60 - 130%	109
	BH105_0.3-0.4	SE174651.005	%	60 - 130%	84
	BH101_1.0-1.1	SE174651.006	%	60 - 130%	74
	BH102_1.0-1.1	SE174651.007	%	60 - 130%	82
	BH103_1.0-1.1	SE174651.008	%	60 - 130%	98
	BH104_1.5-1.6	SE174651.009	%	60 - 130%	77
	QD1	SE174651.011	%	60 - 130%	98

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE174651.013	%	40 - 130%	101
d4-1,2-dichloroethane (Surrogate)	QR1	SE174651.013	%	60 - 130%	112
d8-toluene (Surrogate)	QR1	SE174651.013	%	40 - 130%	105
Dibromofluoromethane (Surrogate)	QR1	SE174651.013	%	40 - 130%	114

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB140306.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB140247.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB140163.001		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Alpha BHC	mg/kg	0.1	<0.1
		Lindane	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		Endrin Aldehyde	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Endrin Ketone	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB140163.001		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	92
		d14-p-terphenyl (Surrogate)	%	-	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB140163.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	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

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB140163.001		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(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	94
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	104

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB140163.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	102

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB140235.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB140276.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB140163.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB140242.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB140161.001	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1
	Hydrocarbons	Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	87
		d4-1,2-dichloroethane (Surrogate)	%	-	72
		d8-toluene (Surrogate)	%	-	89
		Bromofluorobenzene (Surrogate)	%	-	82
	Totals	Total BTEX	mg/kg	0.6	<0.6

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB140176.001	Monocyclic Aromatic	Benzene	µg/L	0.5	<0.5
	Hydrocarbons	Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	115
		d4-1,2-dichloroethane (Surrogate)	%	-	107
		d8-toluene (Surrogate)	%	-	119
		Bromofluorobenzene (Surrogate)	%	-	86

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB140161.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	87
		d4-1,2-dichloroethane (Surrogate)	%	-	72
		d8-toluene (Surrogate)	%	-	89

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB140176.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	115
		d4-1,2-dichloroethane (Surrogate)	%	-	107
		d8-toluene (Surrogate)	%	-	119
		Bromofluorobenzene (Surrogate)	%	-	86

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.013	LB140306.006	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.004	LB140247.014	Mercury	mg/kg	0.05	0.08	0.06	106	30
SE174711.003	LB140247.024	Mercury	mg/kg	0.05	0.10453433400	0.2171197314	61	70 ⑨

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.011	LB140234.011	% Moisture	%w/w	0.5	17	18	36	7
SE174711.005	LB140234.022	% Moisture	%w/w	0.5	0	0	200	0
SE174713.006	LB140234.031	% Moisture	%w/w	0.5	0	0	200	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.005	LB140163.035		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	0	200	0
			Alpha BHC	mg/kg	0.1	<0.1	0	200	0
			Lindane	mg/kg	0.1	<0.1	0	200	0
			Heptachlor	mg/kg	0.1	<0.1	0	200	0
			Aldrin	mg/kg	0.1	<0.1	0	200	0
			Beta BHC	mg/kg	0.1	<0.1	0	200	0
			Delta BHC	mg/kg	0.1	<0.1	0	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	0	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	0	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	0	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	0	200	0
			Dieldrin	mg/kg	0.2	<0.2	0	200	0
			Endrin	mg/kg	0.2	<0.2	0	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	0	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	0	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	0	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	0	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	0	200	0
			Methoxychlor	mg/kg	0.1	<0.1	0	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	0	200	0
			Isodrin	mg/kg	0.1	<0.1	0	200	0
			Mirex	mg/kg	0.1	<0.1	0	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.164	30	4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174411RE.00	LB140163.031	Naphthalene	mg/kg	0.1	<0.1	0.01	200	0
5		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0.04	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.01	200	0
		Fluorene	mg/kg	0.1	<0.1	0.02	200	0
		Phenanthrene	mg/kg	0.1	0.7	0.2	53	107 ②
		Anthracene	mg/kg	0.1	0.2	0.04	125	52
		Fluoranthene	mg/kg	0.1	1.0	0.29	46	108 ②
		Pyrene	mg/kg	0.1	0.9	0.25	47	116 ②
		Benzo(a)anthracene	mg/kg	0.1	0.5	0.16	62	97 ②
		Chrysene	mg/kg	0.1	0.3	0.14	74	76 ②

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174411RE.00	LB140163.031		Benzo(b&j)fluoranthene	mg/kg	0.1	0.5	0.2	60	79 ②
5			Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.05	107	71
			Benzo(a)pyrene	mg/kg	0.1	0.4	0.14	66	98 ②
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.2	0.07	113	52
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Benzo(ghi)perylene	mg/kg	0.1	0.1	0.06	130	33
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	0.5	0.1794	65	92 ②
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.6	0.2904	74	73
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.6	0.2349	58	86 ②
			Total PAH (18)	mg/kg	0.8	4.9	1.4	56	111 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.47	30	8
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.51	30	8
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.56	30	6
SE174651.006	LB140163.033		Naphthalene	mg/kg	0.1	<0.1	0	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	0.01	200	0
			Acenaphthene	mg/kg	0.1	<0.1	0	200	0
			Fluorene	mg/kg	0.1	<0.1	0	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.03	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0.04	200	0
			Pyrene	mg/kg	0.1	<0.1	0.05	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.07	184	0
			Chrysene	mg/kg	0.1	<0.1	0.05	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.06	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.04	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.02	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.02	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.01	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	0.242	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	0.121	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.45	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.47	30	0
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.43	30	13

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.005	LB140163.031		Arochlor 1016	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	0	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	0	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	0	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.164	30	4

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.005	LB140235.014	Arsenic, As	mg/kg	3	6	5	47	16
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	7.6	6.8	37	11
		Copper, Cu	mg/kg	0.5	6.3	8.6	37	31
		Lead, Pb	mg/kg	1	41	44	32	6
		Nickel, Ni	mg/kg	0.5	1.4	1.7	62	20
		Zinc, Zn	mg/kg	0.5	9.1	11	50	21

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174711.004	LB140235.024	Arsenic, As	mg/kg	3	7.96205449297.4788403100		43	6
		Cadmium, Cd	mg/kg	0.3	0.09921563230.1699736434		200	0
		Chromium, Cr	mg/kg	0.3	18.09693133348.1671829457		33	0
		Copper, Cu	mg/kg	0.5	53.57644144762.3918759689		31	2
		Lead, Pb	mg/kg	1	18.7942479702?5.9227209303		31	113 ②
		Nickel, Ni	mg/kg	0.5	11.5090133480?3.3129356589		34	15
		Zinc, Zn	mg/kg	0.5	69.91612770091.404813953		31	8

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174707.018	LB140276.008	Arsenic, As	µg/L	1	-0.012	-0.014	200	0
		Cadmium, Cd	µg/L	0.1	0.001	0	200	0
		Chromium, Cr	µg/L	1	0.003	0	200	0
		Copper, Cu	µg/L	1	0.183	0.03	200	0
		Lead, Pb	µg/L	1	0.014	0.011	200	0
		Nickel, Ni	µg/L	1	0.023	0.046	200	0
		Zinc, Zn	µg/L	5	1.423	1.561	200	0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.006	LB140163.032		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	<45	0	200	0
			TRH C29-C36	mg/kg	45	<45	0	200	0
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	<110	0	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE174661.002	LB140163.028		TRH C10-C14	mg/kg	20	0	0	200	0
			TRH C15-C28	mg/kg	45	29	45	152	0
			TRH C29-C36	mg/kg	45	0	0	200	0
			TRH C37-C40	mg/kg	100	0	0	200	0
			TRH C10-C36 Total	mg/kg	110	0	45	200	0
			TRH C10-C40 Total (F bands)	mg/kg	210	0	0	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	0	0	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	0	0	200	0
			TRH >C16-C34 (F3)	mg/kg	90	0	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	0	0	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.007	LB140161.014	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.9	50	18
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.2	5.0	50	5
			d8-toluene (Surrogate)	mg/kg	-	3.7	3.9	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	4.4	50	7
		Totals	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174554.001	LB140176.020	Monocyclic	Benzene	µg/L	0.5	<0.5	0.12	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	0.4	162	0
			Ethylbenzene	µg/L	0.5	<0.5	0.03	200	0
			m/p-xylene	µg/L	1	<1	0.14	200	0
			o-xylene	µg/L	0.5	<0.5	0.22	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued)

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174554.001	LB140176.020	Polycyclic	Naphthalene	µg/L	0.5	<0.5	0.04	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.3	4.19	30	24
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.1	4.24	30	19
			d8-toluene (Surrogate)	µg/L	-	4.9	4.99	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	4.5	4.68	30	5
SE174554.003	LB140176.021	Monocyclic	Benzene	µg/L	0.5	<0.5	0.11	200	0
		Aromatic	Toluene	µg/L	0.5	<0.5	0.28	200	0
			Ethylbenzene	µg/L	0.5	<0.5	0.03	200	0
			m/p-xylene	µg/L	1	<1	0.06	200	0
			o-xylene	µg/L	0.5	<0.5	0.04	200	0
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	0.03	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.3	4.31	30	20
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.1	4.36	30	15
			d8-toluene (Surrogate)	µg/L	-	4.9	5.28	30	7
			Bromofluorobenzene (Surrogate)	µg/L	-	4.9	4.57	30	7

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174651.007	LB140161.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	4.9	30	18
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.2	5.0	30	5
			d8-toluene (Surrogate)	mg/kg	-	3.7	3.9	30	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	4.4	30	7
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE174554.001	LB140176.020		TRH C6-C10	µg/L	50	<50	44	146	0
			TRH C6-C9	µg/L	40	<40	39	134	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.7	4.61	30	21
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.4	4.5	30	19
			d8-toluene (Surrogate)	µg/L	-	4.9	4.83	30	1
			Bromofluorobenzene (Surrogate)	µg/L	-	4.9	5.2	30	5
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	0.12	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	43.09	149	0
SE174554.003	LB140176.021		TRH C6-C10	µg/L	50	<50	0	200	0
			TRH C6-C9	µg/L	40	<40	0	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.6	4.62	30	20
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.4	4.63	30	15
			d8-toluene (Surrogate)	µg/L	-	4.9	4.95	30	0
			Bromofluorobenzene (Surrogate)	µg/L	-	5.1	5.06	30	0
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	0.11	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	-0.52	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140247.002	Mercury	mg/kg	0.05	0.21	0.2	70 - 130	103

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140163.002		Heptachlor	mg/kg	0.1	0.3	0.2	60 - 140	129
		Aldrin	mg/kg	0.1	0.3	0.2	60 - 140	134
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	115
		Dieldrin	mg/kg	0.2	0.3	0.2	60 - 140	130
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	120
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	85
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	99

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140163.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	80
		Diazinon (Dimpylate)	mg/kg	0.5	1.7	2	60 - 140	83
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	84
		Ethion	mg/kg	0.2	1.5	2	60 - 140	73
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140163.002		Naphthalene	mg/kg	0.1	4.2	4	60 - 140	104
		Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	101
		Acenaphthene	mg/kg	0.1	3.9	4	60 - 140	98
		Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	102
		Anthracene	mg/kg	0.1	3.9	4	60 - 140	98
		Fluoranthene	mg/kg	0.1	3.9	4	60 - 140	96
		Pyrene	mg/kg	0.1	3.5	4	60 - 140	88
		Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	112
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140163.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	108

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140235.002	Arsenic, As	mg/kg	3	53	50	80 - 120	105
	Cadmium, Cd	mg/kg	0.3	53	50	80 - 120	105
	Chromium, Cr	mg/kg	0.3	53	50	80 - 120	106
	Copper, Cu	mg/kg	0.5	54	50	80 - 120	108
	Lead, Pb	mg/kg	1	53	50	80 - 120	106
	Nickel, Ni	mg/kg	0.5	53	50	80 - 120	107
	Zinc, Zn	mg/kg	0.5	54	50	80 - 120	109

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140276.002	Arsenic, As	µg/L	1	20	20	80 - 120	102
	Cadmium, Cd	µg/L	0.1	23	20	80 - 120	115
	Chromium, Cr	µg/L	1	20	20	80 - 120	102
	Copper, Cu	µg/L	1	21	20	80 - 120	106
	Lead, Pb	µg/L	1	24	20	80 - 120	118
	Nickel, Ni	µg/L	1	21	20	80 - 120	107
	Zinc, Zn	µg/L	5	22	20	80 - 120	108

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140163.002		TRH C10-C14	mg/kg	20	35	40	60 - 140	88
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	88
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	68
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	36	40	60 - 140	90
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	75
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	65

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140242.002		TRH C10-C14	µg/L	50	1200	1200	60 - 140	104
		TRH C15-C28	µg/L	200	1400	1200	60 - 140	117
		TRH C29-C36	µg/L	200	1400	1200	60 - 140	116
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1300	1200	60 - 140	111
		TRH >C16-C34 (F3)	µg/L	500	1400	1200	60 - 140	120
		TRH >C34-C40 (F4)	µg/L	500	690	600	60 - 140	115

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140161.002	Monocyclic	Benzene	mg/kg	0.1	2.3	2.9	60 - 140	78
	Aromatic	Toluene	mg/kg	0.1	3.0	2.9	60 - 140	103
		Ethylbenzene	mg/kg	0.1	2.2	2.9	60 - 140	76
		m/p-xylene	mg/kg	0.2	4.2	5.8	60 - 140	73
		o-xylene	mg/kg	0.1	2.1	2.9	60 - 140	71
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.3	5	60 - 140	86
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	5	60 - 140	91

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140176.002	Monocyclic	Benzene	µg/L	0.5	50	45.45	60 - 140	110
	Aromatic	Toluene	µg/L	0.5	50	45.45	60 - 140	110
		Ethylbenzene	µg/L	0.5	50	45.45	60 - 140	110
		m/p-xylene	µg/L	1	100	90.9	60 - 140	110
		o-xylene	µg/L	0.5	50	45.45	60 - 140	110
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.5	5	60 - 140	90
		d8-toluene (Surrogate)	µg/L	-	5.4	5	60 - 140	107
		Bromofluorobenzene (Surrogate)	µg/L	-	5.1	5	60 - 140	102

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140161.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	91
		TRH C6-C9	mg/kg	20	22	23.2	60 - 140	93
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	81
		d8-toluene (Surrogate)	mg/kg	-	4.3	5	60 - 140	86
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	5	60 - 140	91
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	120

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB140176.002		TRH C6-C10	µg/L	50	930	946.63	60 - 140	98
		TRH C6-C9	µg/L	40	760	818.71	60 - 140	93
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.6	5	60 - 140	93
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.7	5	60 - 140	94
		d8-toluene (Surrogate)	µg/L	-	5.1	5	60 - 140	101
		Bromofluorobenzene (Surrogate)	µg/L	-	4.8	5	60 - 140	95
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	630	639.67	60 - 140	98

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.038	LB140306.004	Mercury	mg/L	0.0001	0.0080	<0.0001	0.008	100

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.043	LB140247.004	Mercury	mg/kg	0.05	0.23	<0.05	0.2	95

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174651.003	LB140163.036		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	-
			Alpha BHC	mg/kg	0.1	<0.1	-	-
			Lindane	mg/kg	0.1	<0.1	-	-
			Heptachlor	mg/kg	0.1	<0.1	0.2	123
			Aldrin	mg/kg	0.1	<0.1	0.2	125
			Beta BHC	mg/kg	0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	<0.1	0.2	70
			Heptachlor epoxide	mg/kg	0.1	<0.1	-	-
			o,p'-DDE	mg/kg	0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	0.2	118
			Endrin	mg/kg	0.2	<0.2	0.2	110
			o,p'-DDD	mg/kg	0.1	<0.1	-	-
			o,p'-DDT	mg/kg	0.1	<0.1	-	-
			Beta Endosulfan	mg/kg	0.2	<0.2	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	<0.1	0.2	85
			Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
			Endrin Aldehyde	mg/kg	0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	-	-
			Endrin Ketone	mg/kg	0.1	<0.1	-	-
			Isodrin	mg/kg	0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	-	93

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174651.003	LB140163.032		Dichlorvos	mg/kg	0.5	<0.5	2	103
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	96
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	96
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	-	-
			Ethion	mg/kg	0.2	<0.2	2	81
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174651.003	LB140163.032		Naphthalene	mg/kg	0.1	<0.1	4	101
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	110
			Acenaphthene	mg/kg	0.1	<0.1	4	99
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	99
			Anthracene	mg/kg	0.1	<0.1	4	95
			Fluoranthene	mg/kg	0.1	0.2	4	94
			Pyrene	mg/kg	0.1	0.2	4	107
			Benzo(a)anthracene	mg/kg	0.1	0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	0.1	4	110
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	-	86
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	88
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	82

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.044	LB140235.004	Arsenic, As	mg/kg	3	53	8	50	89
		Cadmium, Cd	mg/kg	0.3	49	<0.3	50	97
		Chromium, Cr	mg/kg	0.3	66	16	50	100
		Copper, Cu	mg/kg	0.5	65	12	50	105
		Lead, Pb	mg/kg	1	66	20	50	93
		Nickel, Ni	mg/kg	0.5	53	4.3	50	97
		Zinc, Zn	mg/kg	0.5	80	32	50	97

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174401A.01	LB140276.004	Zinc, Zn	µg/L	5	24	<5	20	108

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174651.003	LB140163.031		TRH C10-C14	mg/kg	20	<20	40	113
			TRH C15-C28	mg/kg	45	<45	40	108
			TRH C29-C36	mg/kg	45	<45	40	73
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total (F bands)	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	113
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	90
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.013	LB140161.004	Monocyclic	Benzene	mg/kg	0.1	2.2	<0.1	2.9	76
		Aromatic	Toluene	mg/kg	0.1	2.2	<0.1	2.9	74
			Ethylbenzene	mg/kg	0.1	2.0	<0.1	2.9	69
			m/p-xylene	mg/kg	0.2	4.1	<0.2	5.8	71
			o-xylene	mg/kg	0.1	2.0	<0.1	2.9	69

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.013	LB140161.004	Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	-	77
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	3.5	-	80
			d8-toluene (Surrogate)	mg/kg	-	3.8	3.8	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.6	-	73
		Totals	Total Xylenes	mg/kg	0.3	6.1	<0.3	-	-
			Total BTEX	mg/kg	0.6	12	<0.6	-	-

VOCs in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174554.002	LB140176.022	Monocyclic	Benzene	µg/L	0.5	<0.5	45.45	99
		Aromatic	Toluene	µg/L	0.5	<0.5	45.45	101
			Ethylbenzene	µg/L	0.5	<0.5	45.45	93
			m/p-xylene	µg/L	1	<1	90.9	97
			o-xylene	µg/L	0.5	<0.5	45.45	98
		Polycyclic	Naphthalene	µg/L	0.5	<0.5	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.6	-	80
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.4	-	82
			d8-toluene (Surrogate)	µg/L	-	4.9	-	108
			Bromofluorobenzene (Surrogate)	µg/L	-	5.1	-	96

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE174622.013	LB140161.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	88
			TRH C6-C9	mg/kg	20	<20	<20	23.2	83
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.9	-	77
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	3.5	-	80
			d8-toluene (Surrogate)	mg/kg	-	3.8	3.8	-	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.7	3.6	-	73
		VPH F	Benzene (F0)	mg/kg	0.1	2.2	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	128

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE174554.007	LB140176.023		TRH C6-C10	µg/L	50	<50	946.63	91
			TRH C6-C9	µg/L	40	<40	818.71	93
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.7	-	84
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.5	-	93
			d8-toluene (Surrogate)	µg/L	-	5.1	-	108
			Bromofluorobenzene (Surrogate)	µg/L	-	5.0	-	103
		VPH F	Benzene (F0)	µg/L	0.5	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	639.67	87

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.

①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to Analytical Report comments for further information.