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DEICORP PROJECTS PETERSHAM

DETAILED SITE INVESTIGATION REPORT

3-7 Regent St, 13-17 Regent St & 287-309 Trafalgar St, Petersham, NSW

Report E22913 AA_Rev 0

9 May 2016

REPORT DISTRIBUTION

Detailed Site Investigation
3-7 Regent Street, 13-17 Regent Street and 287-309 Trafalgar Street, Petersham, NSW

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EXECUTIVE SUMMARY

Background

Mr. Adam Pinto of Deicorp Projects Petersham engaged Environmental Investigations Australia Pty Ltd (EI) to conduct a Detailed Site Investigation (DSI) for the properties located at 3-7 Regent Street, 13-17 Regent Street and 287-309 Trafalgar Street, Petersham, NSW. For the purpose of this DSI 3-7 Regent Street will be considered Site 1 (Lot 1 DP 629058), 13-17 Regent Street Site 2 (Lot 2 DP 830175) and 287-309 Trafalgar Street Site 3 (Lot 10 DP 1004198 and Lot 1 DP 1208130). This environmental assessment was completed as part of a development application process through Marrickville City Council to allow site development for mixed, multi-storey, residential and commercial land uses.

The objectives of the assessment were to evaluate the potential for site contamination based on historical land uses, anecdotal and documentary evidence of possible pollutant sources;and make recommendations for the appropriate management or remediation should contaminated soils and/or groundwater be identified.

Findings

Based on the findings of this assessment it was concluded that:

- At the time of this DSI Site 1 was occupied by Petersham RSL Club covering the entire footprint of the site, Site 2 by a 1,936 m^2 car park and Site 3 by three vacant warehouse structures and two car parks.
- Review of historical records suggested the following:
  - Site 1 was primarily residential land use until the 1960s when it was redeveloped for commercial uses as Petersham RSL. Site 2 was primarily residential land use until the 1970s when residential structures on site were demolished for the construction of an open car park. Lot 10 of Site 3 was mainly residential use until the 1960s when it was redeveloped for commercial use and then as an open carpark. Lot 1 of Site 3 has remained commercial / industrial since the 1930's. A specialised ball bearing company occupied part of the site since the 1950's until 2015 .Other historical uses on site 3 were lime and cement merchants , furniture and possible home appliance manufacture or warehousing.
- A search of WorkCover NSW Authority did not locate any records relating to the site.
- The site was free of statutory notices issued by the NSW EPA/DECC, and was not recorded on the List of NSW Contaminated Sites Notified to EPA.
- Site walkover inspection identified the presence of an underground petroleum storage system (UPSS) at Site 3 (305-309 Trafalgar Street, Petersham). An above ground Diesel storage Tank and associated infrastructure was identified at Site 1 on the southern side of the RSL basement car park;
- Two boreholes were drilled and sampled at Site 1, 6 boreholes on Site 2 and 13 boreholes onon Site 3. Seven of the boreholes were converted to groundwater monitoring wells;
- The general site geology encountered during the soil investigation is described as a layer of anthropogenic filling in depths raging from 0.03 mBGL to 1.89 mBGL overlying clayey soils in depths raging from 0.6 mBGL to 3.4 and shale at depths raging from 2.2 mBGL to 17+mBGL. Groundwater seepage was encountered at depths of between 4.5 mBGL and 6 m BGL during drilling;

- Laboratory analytical results of tested soil samples were assessed against the health-based investigation level for residential sites with minimal access to soil (HIL-B) and Ecological Investigation Levels (EILs) based on the proposed site configuration. The analytical results suggested the following:
  - Results of soil samples collected at BH9M, BH11 and BH12 (Site 2) indicated concentrations of heavy metals (nickel and zinc) in excess of the adopted EILs.
  - Results of soil samples collected at BH15M and BH3 (Site 3) indicated concentrations of PAHs in excess of the adopted HILB criteria but had not leached to the natural material.
  - Elevated concentration of Carcinogenic PAHs in excess of the adopted health-based criterion (HIL-B) were reported in samples BH15M, BH3 (Site 3) and BH12 (Site 2) but were reported below the adopted criteria indicating that Carcinogenic PAHs had not leached to the natural material in BH15M and BH12. Results of tested natural material at BH3 indicated a lower concentration of Carcinogenic PAH, however reported above the adopted criteria.
  - Elevated concentration of naphthalene in excess of the adopted health-based criterion (HIL-B) was reported in BH3but was below the adopted criteria in the natural material.
  - Elevated concentration of benzo(a)pyrene in excess of the ESL was reported in sampling locations BH11, BH12 and BH25 probably from the asphalt hardstand.
  - Asbestos was identified in laboratory examined fill soil sample BH3_0.2-0.4 collected during the field investigation at a concentration less than 0.01%. Asbestos was not identified in any of the other collected samples.
- Groundwater investigation conducted indicated the following:
  - Groundwater results reported concentration below the detection limit for PAHs and BTEX. The majority of the heavy metals were screened below the adopted criteria with the exception of zinc in all sampling locations, nickel for sampling locations BH1M and BH6M (Site 3) and BH 11 M (Site 2) and Copper in BH1M, BH4M, BH6M (Site 3), BH11M (Site 2) and BH15M (Site 3).
  - TRH concentrations were reported either below or slightly above LOR, expect F1 TRH and F2 TRH at sampling location BH10M and F2 TRH at sampling location BH9M situated at Site 2 which occur at concentrations exceeding the adopted GIL.
  - Background groundwater quality entering site 2, as inferred from monitoring well BH10M and BH11M is characterised by concentrations of TRH F1 and TRH F2 at BH10M. Concentrations of TRH F2 were reported as well at the downgradient well BH9M situated at the north western side of the carpark.
  - Background groundwater quality entering site 3, as inferred from monitoring well BH6M is characterised by concentrations of copper, nickel and zinc above the GILs. Concentrations of copper, nickel and zinc above the GILs were reported in BH1M and BH15M inferred to be down-gradient.
  - A low concentration of chloroform was recorded in BH1M (Site 3) likely to be associated with leaking reticulated water supply infrastructure.
  - Heavy metal concentrations were inferred to be representative of the regional groundwater quality. Inferred groundwater flow direction was towards the north-west. Standing water levels at the site were measured between approximately 1.8 m to 4 mBGL during the DSI. The main aquifer encountered in this DSI was located within fractured Ashfield Shale, the top of which was estimated at between 4.5 mBGL to 6 mBGL. The aquifer was considered to be a semiconfined to confined aquifer.

  - Due to onsite restrictions monitoring wells at Site 1 could not be installed therefore, the water quality has not been assessed.

- The following data gaps identified in this DSI will require closure by further investigations:
  - The quality of site soils beneath the RSL structures (Site 1), requires further investigation.
  - Delineation of the vertical and horizontal extent of zinc, carcinogenic PAHs, and benzo(a)pyrene soils, at Site 2, requires confirmation.
  - Asbestos identified in sample BH3_0.2-0.4 on Site 1indicating further asbestos testing is required following demolition of site structures.
  - Further groundwater investigation be undertaken at Site 1 following demolition of site structures to allow drill rig access and following the decommissioning of the known above ground Diesel storage tank;
  - One additional monitoring round for all wells at site 2 and site 3 and newly installed wells at Site 1 to confirm groundwater quality staus; and
  - Potential presence of hazardous materials present within the existing structures requires verification.

Conclusions and Recommendations

Based on the findings of this report and with consideration of the Statement of Limitations (Section 11), EI concludes that widespread contamination was not identified at the sites. Concentrations exceeding human health based SILs were identified within hotspots at the northern and south eastern areas of Site 3 and northern and southern boundaries of Site 2. In view of the proposed development, and currently available information, EI consider that the contamination identified can be remediated after carrying out the following data gap closure investigations and any subsequent site management and remedial actions that may be found to be warranted:

- Prior to site demolition, carry out a Hazardous Materials Survey on existing site structures;
- Preparation and implementation of a Remediation Action Plan (RAP), which should:
  - Design supplementary investigations to close the data gaps identified during this investigation;
  - Outline the remediation requirements for contamination identified during this DSI 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 sampling plan for the validation of remediation activities performed on-site.
- Preparation of a final site validation report in accordance with the RAP to ensure the site suitability for the proposed land use.

CONTENTS

EXECUTIVE SUMMARY 2
1. INTRODUCTION 7
1.1 Background and Purpose 7
1.2 Proposed Development 7
1.3 Regulatory Framework 8
1.4 Project Objectives 8
1.5 Scope of Works 9
2. SITE DESCRIPTION 11
2.1 Property Identification 11
2.2 Surrounding Land Use 12
2.3 Regional Setting 12
2.4 Groundwater Bore Records and Local Groundwater Use 13
2.5 Site Walkover Inspection 13
3. SITE HISTORY 17
3.1 Site Land Titles Information / Historic Aerial Review 17
3.2 Surrounding Lands Historical Aerial Photography Review 25
3.3 Council Information 26
3.4 WorkCover NSW Authority Search 28
3.5 Hazardous Chemicals and Regulatory Compliance 28
4. CONCEPTUAL SITE MODEL 30
4.1 Subsurface Conditions 30
4.2 Chemical Hazards and Contamination Sources 30
4.3 Potential Chemicals 31
4.4 Potential Sources, Exposure Pathways and Receptors 31
4.5 CSM Overview 32
4.6 Potential Data Gaps 35
5. METHODOLOGY 36
5.1 SAMPLING, ANALYTICAL AND QUALITY PLAN (SAQP) 36
5.2 Data Quality Objectives (DQO) 36
5.3 Data Quality Indicators 41
5.4 Sampling Rationale 42
5.5 Investigation Constraints 42
5.6 Assessment Criteria 42
5.7 Soil Investigations 45
5.8 Groundwater Investigations 46
6. DATA QUALITY ASSESSMENT 48
7. RESULTS 49
7.1 Soil Investigation Results 49
7.2 Groundwater Investigation Results 51
7.3 Laboratory Analytical Results 52
8. SITE CHARACTERISATION 56
8.1 Soil 56
8.2 Groundwater Characterisation 57
8.3 Updated Conceptual Site Model 58
9. CONCLUSIONS 62
10. RECOMMENDATIONS 66
11. STATEMENT OF LIMITATIONS 67

REFERENCES

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ABBREVIATIONS

TABLES (In Text)

TABLE 2-1 SITE IDENTIFICATION, LOCATION AND ZONING 12
TABLE 2-2 LOCAL LAND USE 12
TABLE 2-3 REGIONAL SETTING INFORMATION 12
TABLE 2-4 SUMMARY OF SELECTED REGISTERED GROUNDWATER BORES 14
TABLE 3-1 SUMMARY OF OWNERS AND HISTORICAL AERIAL PHOTOGRAPHY 18
TABLE 3-2 SUMMARY OF AERIAL PHOTOGRAPH REVIEW 27
TABLE 3-3 SUMMARY OF HISTORICAL RECORDS ARCHIVED AT MARRICKVILLE CITY COUNCIL 27
TABLE 4-1 PRELIMINARY CONCEPTUAL SITE MODEL 35
TABLE 5-1 SUMMARY OF PROJECT DATA QUALITY OBJECTIVES 39
TABLE 5-2 DATA QUALITY INDICATORS 42
TABLE 5-3 ADOPTED INVESTIGATION LEVELS FOR SOIL AND GROUNDWATER 44
TABLE 5-4 ADOPTED ACL AND ABC VALUES FOR EIL DERIVATION 44
TABLE 5-5 SUMMARY OF SOIL INVESTIGATION METHODOLOGY 46
TABLE 5-6 SUMMARY OF GROUNDWATER INVESTIGATION METHODOLOGY 47
TABLE 7-1 GENERALISED SUBSURFACE PROFILE SITE 1 50
TABLE 7-2 GENERALISED SUBSURFACE PROFILE SITE 2 50
TABLE 7-3 GENERALISED SUBSURFACE PROFILE SITE 3 51
TABLE 7-4 MONITORING WELL CONSTRUCTION DETAILS 52
TABLE 7-5 GROUNDWATER FIELD DATA 52
TABLE 7-6 SUMMARY OF SOIL ANALYTICAL RESULTS 54
TABLE 7-7 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS 55

TABLES

TABLE T1 SUMMARY OF SOIL RESULTS - HEAVY METALS, TRH AND BTEX
TABLE T2 SUMMARY OF SOIL RESULTS - PAHS, OCP, OPP AND PCB
TABLE T4 SUMMARY OF SOIL RESULTS - ASBESTOS
TABLE T5 SUMMARY OF GROUNDWATER RESULTS

FIGURES

FIGURE 1 LOCALITY PLAN
FIGURE 2 SAMPLING LOCATION PLAN
FIGURE 3 GROUNDWATER FLOW DIRECTION

APPENDICES

APPENDIX A PROPOSED DEVELOPMENT PLANS
APPENDIX B REGISTERED GROUNDWATER BORES SEARCH
APPENDIX C SITE PHOTOGRAPHS
APPENDIX D HISTORICAL PROPERTY TITLES SEARCH
APPENDIX E NSW WORKCOVER DANGEROUS GOODS SEARCH
APPENDIX F BOREHOLE LOGS
APPENDIX G FIELD DATA SHEETS
APPENDIX H CHAIN OF CUSTODY AND SAMPLE RECEIPT FORMS
APPENDIX I LABORATORY ANALITICAL REPORTS
APPENDIX J QA/QC ASSESSMENT
APPENDIX K LABORATORY QA/QC POLICIES AND DQOS

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

Mr. Adam Pinto of Deicorp Projects Petersham engaged Environmental Investigations Australia Pty Ltd (EI) to conduct a Detailed Site Investigation (DSI) for site characterisation purposes at 3-7 Regent Street, 13-17 Regent Street and 287-309 Trafalgar Street, Petersham, NSW (see Figure 1).

For the purpose of this DSI 3-7 Regent Street will be considered Site 1 (Lot 1 DP 629058), 13-17 Regent Street Site 2 (Lot 2 DP 830175) and 287-309 Trafalgar Street Site 3 (Lot 10 DP 1004198 and Lot 1 DP 1208130) covering a total area of approximately 9,800 m^2see Figure 2. It is understood that the site is located on the southern side of Petersham Rail Corridor.

EI understand that this assessment is required by Marrickville City Council to assess the current Development Application (DA) and for the purpose of enabling the developer to meet its obligations under the Contaminated Land Management Act 1997 (CLM Act), for the assessment and management of contaminated soil and/or groundwater. EI was not made aware of any previous environmental investigations conducted at the site.

At the time of this DSI Petersham RSL Club occupied the entire footprint of the site 1, the building had two street frontages at Regent Street and Fisher Street. The RSL comprised a two-storey building with associated basement carpark entry via Regent Street and an open carpark on the northern side. Site 2 was occupied by an open carpark bound by Regent Street west and New Canterbury Road south. Site 3 was occupied by two carparks and one basement carpark entry via Regent Street, three warehouses bound by Trafalgar Street north occupied the remainder of the site footprint. The site layout is presented in Figure 2.

1.2 PROPOSED DEVELOPMENT

EI was provided with the following drawings prepared by Architecture and Building Works Pty Ltd for Site 1:

"Elevations", Project No. PN-15010, Drawing No. A-1400, RSL Club Site, dated 25 November 2015;

- "Lower Basement Level", Project No. PN-15010, Drawing No. A-0900, RSL Club Site, dated 25 November 2015; and
- "Upper Basement Level", Project No. PN-15010, Drawing No. A-0910 dated 25 November 2015.

The proposed development for Site 1 comprises a 9 storey building with associated two level basement car parking facilities covering the majority of the site footprint. Proposed development plans are presented in Appendix A. In view of the proposed development and basement excavation extent, land use at the site post redevelopment is considered to qualify as *HIL-B Residential sites with minimal opportunities for soil access* as defined in 2013 amendment of *National Environment Protection (Assessment of Site Contamination) Measures* 1999 (NEPM 2013). The north eastern, western and southern boundary of Site 1 will also be assessed against the NEPM 2013 Ecological Investigation Levels (EILs).

EI was provided with the following drawings prepared by Candalepas Associates for Site 2:

- "Elevation Regent Street", Job No. 5766, Drawing No. SK-1301, dated 20 November 2015;

- "Elevation", Job No 5766, Drawing No. SK-1302, dated 20 November 2015
- "Basement B3 Floor Plan+Basement B2 Floor Plan", Job No 5766, Drawing No. SK-1101, dated 20 November 2015.

The proposed development for Site 2 comprises a five storey building with associated three level basement car parking facilities across the majority of the site (see Appendix A). In view of the proposed development and basement excavation extent, land use at the site post redevelopment is considered to qualify as *HIL-B Residential sites with minimal* (NEPM 2013). The western and south eastern boundary of Site 2 (soil location samples BH9M, BH11M, BH12M, BH25, BH26 and BH27) will also be assessed against the NEPM 2013 EILs given the presence of deep planting areas at these locations.

EI was provided with the following drawings prepared by Nordon Jago Architects for Site 3:

- "Plan Level B3", Job No. DEI00614, Drawing No. DN.012 D, dated 21 September 2015;
- "Plan Level B2", Job No. DEI00614, Drawing No. DN.011D, dated 21 September 2015;
- "Plan Level B1", Job No. DEI00614, Drawing No. DN.010D, dated 21 September 2015
- "Iso Sections", Job No. DEI00614, Drawing No. DN015, dated 21 September 2015; and
- "Principle Elevation", Job No. DEI00614, Drawing No. DN020, dated 21 September 2015.

The proposed development for Site 3 comprises a seven storey building with associated four level basement car parking facilities across the majority of the site. Proposed development plans are presented in Appendix A. In view of the proposed development land use at the site post redevelopment is considered to qualify as *HIL-B residential sites with minimal opportunities for soil access* (NEPM 2013).

1.3 REGULATORY FRAMEWORK

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

- DEC (2006) Guidelines for the NSW Site Auditor Scheme (2nd Edition);
- EPA (1995) Sampling Design Guidelines;
- 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 primary objectives of this investigation were to:

- Evaluate the potential for site contamination on the basis of historical land uses, anecdotal and documentary evidence of possible pollutant sources;

- To investigate the degree of any potential contamination by means of limited intrusive sampling and laboratory analysis, for relevant contaminants; and
- Where site contamination is confirmed, make recommendations for the appropriate management of any contaminated soils and/or groundwater.

1.5 SCOPE OF WORKS

In order to achieve the above objectives, and in accordance with EI Proposal P13544.1 (dated 22 February 2016), the scope of works was as follows:

1.5.1 Desktop Study

- A review of relevant topographical, geological, hydrogeological and soil landscape maps for the project area;
- Search of historical aerial photographs archived at NSW Land and Property Information to review previous site use and the historical sequence of land development in the neighbouring area;
- A land titles search conducted through NSW Land and Property Information for information relating to historical ownership of the site;
- A search of Marrickville City Council records for information relating to operational site history and/or relevant environmental incidents;
- A search of NSW EPA Land Information records under the *Contaminated Land Management Act* (1997) and *Protection of the Environment Operations Act* (1997);
- A search of the Stored Chemical Information Database (SCID) and microfiche records held by WorkCover NSW relating to possible underground tank approvals and locations, and storage of dangerous goods; and
- A review of existing underground services on site.

1.5.2 Field Work & Laboratory Analysis

Field work and subsequent analysis of soil and groundwater samples comprised:

- A detailed site walkover inspection;
- Intrusive soil investigation at 21 locations across accessible areas of the site;
- Upon completion of the drilling, installation of seven groundwater monitoring wells;
- Multiple level soil sampling within fill and natural soils and one groundwater sampling event (GME) at the seven newly constructed groundwater monitoring wells; and
- Laboratory analysis of selected soil and groundwater samples for relevant analytical parameters as determined from the site history survey and field observations during the investigation programme.

1.5.3 Data Analysis and Reporting

A DSI report would also be prepared to document desk study findings, the conceptual site model, data quality objectives, investigation methodologies and results. The report would also provide a record of observations made

during the detailed site walkover inspection, borehole and monitoring well construction logs and a discussion of laboratory analytical results in regards to potential risks to human health, the environment and the aesthetic uses of the land.

2. SITE DESCRIPTION

2.1 PROPERTY IDENTIFICATION

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	3-7 Regent Street, 13-17 Regent Street and 287-309 Trafalgar Street, Petersham, NSW
Location Description	Approximately 6 km south west of the Sydney CBD. Site 1 is an irregular shaped block bound by residential properties north, Fisher Street south, Marrickville Council Chambers east and Regent Street west. North western corner of site under GDA94-MGA56 coordinates: Easting: 329510.607, Northing: 6248019.869 (Source: http://maps.six.nsw.gov.au). Site 2 is an irregular shaped block bound by Fisher Street north, New Canterbury Road south, residential properties east and Regent Street west. Easting: 329478.441, Northing: 6247931.86 (Source: http://maps.six.nsw.gov.au). Site 3 is an irregular shaped block bound by Trafalgar Street north, residential properties south, Regent Street east and commercial properties west. North western corner of site under GDA94-MGA56 coordinates: Easting: 329452.58, Northing: 6248045.502 (Source: http://maps.six.nsw.gov.au).
Site Area	Approximately 9,800 m^2
Site Owner	Deicorp Projects Petersham
Lot and Deposited Plan (DP)	Site 1: Lot 1 DP 629058 Site 2: Lot 2 DP 830175 Site 3: Lot 10 DP 1004198, Lot 1 DP 1208130, Lot 10 DP 1004198
State Survey Marks	Two State Survey Marks are situated in close proximity to Sites 1 and 2: • SS103974AD located 70 m south east of Site 1 on Crystal Street; • SS103979 located 20 m south west across regent Street of Site 2; and Three State Survey Marks are situated in close proximity to Site 3: • SS81795D, located north west of the site on the footpath on Trafalgar Street approximately 52 m away, SS103976D on the north eastern boundary and SS103977 12 m south east on Fisher and Regent Street intersection. (Source: http://maps.six.nsw.gov.au).
Local Government Authority	Marrickville City Council
Parish	Petersham
County	Cumberland
Current Zoning	R4 – High Density Residential (Marrickville Local Environmental Plan, 2011, Land Zoning Map Sheet LZN_003)

2.2 SURROUNDING LAND USE

The site is situated within a predominantly residential area. Detailed description of surrounding land uses is provided 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	Site 1. Residential followed by Trafalgar Street then a railway corridor. Site 2. Fisher Street then Petersham RSL Club. Site 3. Trafalgar Street then a rail corridor.	Neighbouring residential properties (immediately adjacent to site 1)
South	Site 1. Fisher Street followed by residential properties to the south east and a car park to the south west. Site 2. New Canterbury Road then the Heritage listed Petersham Water Tower and elevated tank constructed in 1965 (Marrickville City Council). Site 3. Residential properties to the south west and Fisher Street to the south east.	Neighbouring residential properties (immediately adjacent to Site 1 and Site 3) and the heritage listed elevated tank south of Site 2.
East	Site 1. Marrickville City Council to the south east and residential properties to the north east.. Site 2. Residential properties. Site 3. Regent street the residential properties to the north east and Petersham RSL Club to the south east.	Neighbouring residential properties (immediately adjacent to the north east of Site 1 and Site 2.
West	Site 1. Regent Street followed by an open car parking. Site 2. Residential properties. Site 3. Commercial properties	Neighbouring residential properties to Site 3 and beyond Regent Street of Site 2; Petersham Primary High School; and Petersham Children's Education situated 400 m west of the sites.

2.3 REGIONAL SETTING

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

Table 2-3 Regional Setting Information

Attribute	Description
Topography	The Soil Conservation Service of NSW Soil Landscapes of the Sydney 1:100,000 Sheet Chapman and Murphy, 1989), indicated that the site overlies a Blacktown (bt) Landscape. According to Chapman and Murphy, this landscape type includes gently undulating rises with local relief between 10-30m. Slopes are generally <5% but occasionally up to 10%. The local topography was gently undulating with a 10% downward slope to the north west.
Site Drainage	Based on observations on-site, stormwater is anticipated to be diverted by pit and pipe drainage to the municipal stormwater system or as subsurface infiltration or overland flow to Hawthorn Canal.

Attribute	Description
Regional Geology	The site is likely to be underlain by Ashfield Shale of Wianamatta Group (Rwa), which typically comprises black to dark-grey shale and laminite. (Ref. 1:100 000 scale Geological Series Sheet 9130 (Sydney).
Soil Landscapes	Soils are shallow to moderately deep (<150cm) Red Podzolic Soils and Brown Podzolic Soils on crests, upper slopes and well-drained areas. Deep (150-300cm) Yellow Podzolic Soils and soloths on lower slopes and in drainage depressions and localised areas of poor drainage. Limitations include moderately reactive, highly plastic subsoils and low soil fertility.
Acid Sulfate Soil Risk	The site lies within an area mapped as "No Known Occurrence" of ASS materials on the Marrickville Local Environmental Plan 2011 (Acid Sulfate Soils Map Sheet ASS_003) therefore acid sufate soils are not known or expected to occur in such area.
Nearest Surface Water Feature	Hawthorne Canal situated 1 km north west of the sites and Cooks River situated 3 km south of the site. (Source: http://maps.six.nsw.gov.au/).
Anticipated Groundwater Flow Direction	North to north-west towards Hawthorn Canal, which joins Parramatta River via Iron Cove at approximately 2.5 km north-west of the site draining to Sydney Harbour.

2.4 GROUNDWATER BORE RECORDS AND LOCAL GROUNDWATER USE

An online search of registered groundwater bores was conducted by EI on 14 March 2016 through NSW Office of Water online database (Ref: http://allwaterdata.water.nsw.gov.au/water.stm). There were 3 registered bores within 1 km of the site of the site. The identified bores and their direction and distance from the site are listed in Table 2-4

Table 2-4 Summary of Selected Registered Groundwater Bores

Bore No.	Direction and approx. Distance (m)	Date Drilled	Drilled Depth (m)	SWL	Bore Purpose
GW111088	NE – 700 M	2007	9	-	Monitoring Bore
GW111089	NE – 700 M	2007	9	-	Monitoring Bore
GW111087	NE – 700 M	2007	8.7	-	Monitoring Bore

Notes: - Data not recorded; * SWL – Standing water level measured in m BGL

Three registered bores were identified within 1 km of the site, being recorded as monitoring bores. These registered bores were located cross hydraulic gradient relative to the site. The drilled bore depths ranged between 8.7m and 9m BGL, water table information was not available at the time of reporting. Given the available reticulated water supply in the region, the likelihood of groundwater being used for drinking purposes in the local area was considered to be low. A map showing the locations of the identified bores is provided in Appendix B.

2.5 SITE WALKOVER INSPECTION

EI staff made a number of observations during a detailed site inspection on 17 March 2016. The recorded observations are summarised below with photographic log provided in Appendix C:

The inspection comprised the following sites:

3-7 Regent Street, Petersham

- At the time of this DSI Petersham RSL Club occupied the entire footprint of the site, the building had two street frontages at Regent Street and Fisher Street. The RSL comprised a two-storey building with associated basement carpark via Regent Street and an open carpark on the northern side.
- A loading dock was situated on the southern side of the RSL building entry via Fisher Street, skip bins containing biodegradable as well as non biodegradable waste were situated on the loading doc. Wood,metal and platic scrap materials were noted next to the skip bins.
- The existing building appeared to be in good condition with minor weathering it appeared to have undergone recent refurbishement works and additions.
- The open car parking surface was covered by concrete pavement. Minor, localised cracking and occasional minor oil staining was noted on the concrete stand.
- An above ground storage Diesel tank and associated infrastructure was situated on the southern side of the basement.
- A sewer main traversing the site was noted on the ground level car parking area south of the RSL building.
- Hazardous materials such as fluorescent light fittings potentially containing PCB's were noted throughout the basement carpark, a hot water system presumed to contain SMF insulation was situated on the south easten side of the basement.

13-17 Regent Street, Petersham

- This property was occupied by an open carpak entry via Regent Street. The open car park surface was covered by concrete pavement. Minor, localised cracking and occasional minor oil staining was noted on the concrete stand.
- A vacant small building structure constructed in brick assumed to be a former administrative building was situated at the south eastern side of the site.
- A sewer main was noted along the western boundary of the site on Regent Street.
- Petersham Reservoir (Sydney Water WS0204) was noted across New Canterbuty Road south of the site,
- As the site sloped generally to the north to north-west, areas associated with site concrete hardstand were observed to be underlain by filling presumed to be utilised for levelling purposes. It is uncertain as to whether this material was sourced directly from the site, or has been imported for the establishment of site grades.
- Some minor filling was also noted at the deep planting areas along the perimeter of the site and on the central area of the car park. Fill was observed as well on the batter adjacent to the fencing along the southern boundary of the site.

287-295 Regent Street and 2 Regent Street, Petersham

- One open carpark of approximately 44 car spots occupied the northern side of the area. Entry to the carpark was via Regent Street.

- Car park surface was covered by concrete pavement. Site pavements were generally in good condition, with minimal cracking and deformation observed. Some minor localised oil staining was observed in car parking areas, along the main access driveway.
- An underground basement carpark was situated on the northern side of 2 regent street south of 287-295 Regent Street carpark. This basement carpark was inaccessible at the time of inpsection.
- The ground level car park surface was covered by concrete pavement. Minor, localised cracking and occasional minor oil staining was noted on the concrete stand.
- A third carpark with frontages to Regent Street and Fisher Street was situated south of the site. Trees were noted along the perimeter of the whole of the site.
- As the site sloped north- north west areas associated with site concrete hardstand were observed to be underlain by filling. An embankment was noted on the northern side of the car park adjacent to the basement carpark.
- Deep planting areas were observed at the northern and southern side of the carpark these areas were observed to be underlain by filling.
- Underground petroleum storage systems (UPSS) were not observed during the site walkover.
- A general waste skip bin was noted on the norther side of the car park entry, with degradable waste and scrap materials. An oil tin was noted on the gound adjacent to the bin.

305-309 Trafalgar Street, Petersham

- The site comprised a vacant brick and cement rendered two storey warehouse. The warehouse was formerly occupied by McCallum & Co Pty Ltd since approximately the 1950's. A company specialised in the manufacture of ball bearings.
- Redundant LPG gas tanks, wax tins, an ACL (Automotive Components Limited) metal powder container, and a Samson spray paint equipment container were observed on the ground level of the warehouse.
- Equipment such as a furnace and a redundant Wessberg and Tulander oven were noted on the ground floor. Magnesium Stearate, and ammonium chloride tags from Harcros Chemical Pty Limited were noted on the oven.
- The ground level surface was covered by concrete pavement throughout the warehouse footprint. Localised cracking and oil staining was noted on the concrete stand.
- One tank filling point was identified within the northern part of the building, adjacent to the loading dock entry via Trafalgar Street. The area was scanned with Ground-Penetrating Radar (GPR) and the location of one large or two medium sized USTs was confirmed, with an estimated tank size of 3 m x 2.5 m each.

301-303 Trafalgar Street, Petersham

- The site comprised a one storey with first floor semilevel warehouse constructed in brick and aluminium. Entry to the warehouse was through two roller doors fronting Trafalgar Street.
- Ace Props was noted to be the former occupant of the warehouse a company specialising in props and scenery for the event and entertaining industry. Maniquins and prop materials wer noted throughout the warehouse.

- No hardstand was observed on top of ground throughout of the warehouse.
- A redundant hot water system, wooden, plastic and metal scrap materials were noted in different locations of the warehouse.

297 Trafalgar Street, Petersham

- A two storey warehouse constructed in brick occupied the entire footprint of the site. Romantic Furniture company specialising in launge manufacturing was noted to be the former occupant of the site. Entry to the warehouse was via two loading docks fronting Trafalgar Street.
- At the time of inspection the warehouse was unoccupied, machines, equipment and materials had been previously removed from the warehouse.
- Former administrative offices were situated on the second and third level of the warehouse.
- Ground level of the warehouse was covered by concrete pavement in good conditions with minor oil staining.
- Presumed asbestos containing roofing was observed throughout the warehouse.

2.5.1 Observations of Hazardous Building Materials

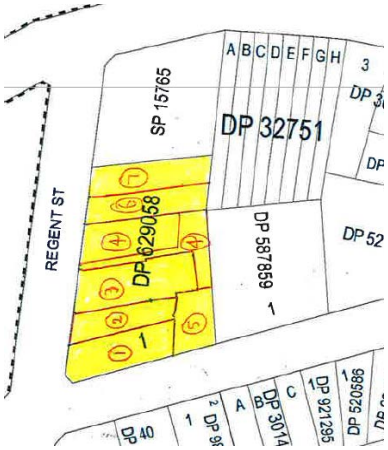
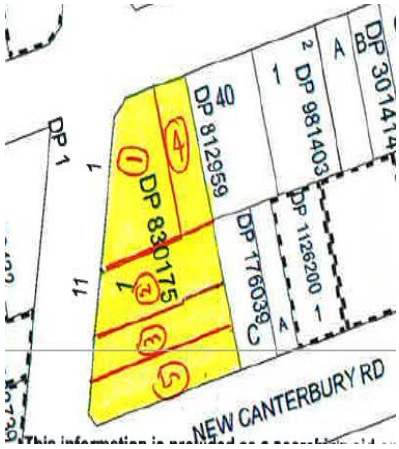
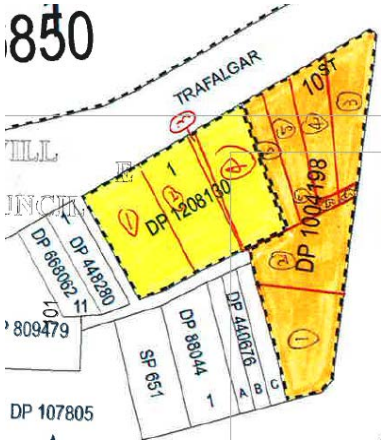
- Site inspection indicated the presence of asbestos containing materials (ACM) on the building structures;
- Site observations indicated that lead based paint system may have been used on site structures.
- Hot Water Systems presumed to contain SMF insulation were observed on site; and
- Fluorescent Light Fittings with capacitors presumed to contain PCB's were observed on different structures of the site.

3. SITE HISTORY

3.1 SITE LAND TITLES INFORMATION / HISTORIC AERIAL REVIEW

Historical land titles search for the site was conducted through Legal Liaison Services Pty Ltd. Copies of relevant documents, including detailed land title transfer records resulting from this search are presented in Appendix D. The approximate outline of the allotments is shown in Figure 3-1.

Figure 3-1 Title Division Site 1, Site 2 and Site 3, Petersham

Site 1. 3-7 Regent Street	Site 2. 13-17 Regent Street	Site 3. 287 – 309 Trafalgar Street
		

The historical aerial photographs reviewed as part of this DSI included:

- 1930: 20 February 1930, Map 3428, Run 16, B/W;
- 1943: 1943 Sydney Imagery (source : http://maps.six.nsw.gov.au/);
- 1951: May 1951, Run 12, B/W, Map 467-52 – Lands Photo;
- 1961: 1961, B/W, NSW 1042-5016 – Lands Photo;
- 1982: 1982, NSW 3240-38 – Lands Photo;
- 1999: 4 May 1999, Run 6, NSW 4702 – Department of Lands;
- 2004: 8 October 2004, Run 6, NSW 4877 (M2451) – Department of Lands; and
- 2016: 2016 Aerometrex Imagery (accessed on Google Earth).

Table 3-1 Summary of Owners and Historical Aerial Photography

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1 , 3-7 Regent St, Petersham			
1915 - 1950	Over Part 1: Sarah Ann Knight (Married Woman) / George Edward Knight (Builder) / William Bailey (Butcher) Lillian Ada Bailey (Married Woman) Over Part 2: Georgina Mary Tadich (Married Woman) Over Part 3: Georgina Mary Tadich (Married Woman) Over Part 4: Georgina Mary Tadich (Married Woman) Over Part 5: Georgina Mary Tadich (Married Woman) Over Part 6: Walter Frank Hosking (Furniture Warehouseman)/ Agnes Eugenie Hosking (Widow) Over Part 7: Walter Frank Hosking (Furniture Warehouseman) / Agnes Eugenie Hosking (Widow) / John Henry Mitchell (Hotel Keeper)	1930: The site appears to be occupied by 4 residential dwellings, a vacant field is situated adjacent to the residential property of the northern boundary. 1943: Site remains primarily unchanged form the 1930's aerial.	Residential
1950 – 1960	Over Part 1: William Bailey (Butcher) Lillian Ada Bailey (Married Woman) / Augustus George Olsen (Retired) Harriett Olsen (Married Woman) / Mabel Olsen (Spinster) Over Part 2: Annie Helena Tadich (Spinster) Over Part 3: Guiseppe William Tadich (Retired Builder) / Vincent Martin Tadich (Electrical Contractor), Annie Helena Tadich (Spinster), Norman Joseph Tadich (Taxi Proprietor), / Robert Joseph Bryan (Retired Builder) / James Glen McGarvie (Store Manager), Audrey Hughena McGarvie (Married Woman). Over Part 4: Guiseppe William Tadich (Retired Builder) / Vincent Martin Tadich (Electrical Contractor), Annie Helena Tadich (Spinster) Norman Joseph Tadich (Taxi Proprietor) / Robert Joseph Bryan (Retired Builder) / Doris Doreen Brines (Married Woman) Over Part 5: Guiseppe William Tadich (Retired Builder) (Transmission Application not investigated) / Vincent Martin Tadich (Electrical Contractor) Annie Helena Tadich (Spinster) Norman Joseph Tadich (Taxi Proprietor) / Samuel David Grove (Carpenter) Amy Elizabeth Grove (Married Woman) Over Part 6: Phyllis Gulliver (Married Woman) George Woodford Mitchell (Accountant) / Maurice Mervyn Punch (Baker), Edna May Punch (Married Woman) Over Part 7: Phyllis Gulliver (Married Woman), George Woodford Mitchell (Accountant)	1951: Site remains primarily unchanged form the 1930's aerial.	Residential

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1960-1970	Over Part 1: Richard Joseph Heagney (Labourer), Patrick Westwood Sullivan (PMG Employee), Ronald Caro Ayrton (Fitter) (Trustees for Petersham RSL Club) / Patrick Westwood Sullivan (Mail Officer) Elwyn Mullaney (Plumber), Maurice George Edward Dennis (French Polisher) (Trustees for Petersham RSL Club) Over Part 2: Frederick David Court (Taxi Proprietor), Elizabeth May Court (Married Woman) / Richard Joseph Heagney (Labourer), Patrick Westwood Sullivan (PMG Employee), Ronald Caro Ayrton (Fitter) (Trustees for Petersham RSL Club) / Patrick Westwood Sullivan (Mail Officer), Elwyn Mullaney (Plumber), Maurice George Edward Dennis (French Polisher), (Trustees for Petersham RSL Club). Over Part 3: Richard Joseph Heagney (Technical College Lecturer), Thomas Henry Bosward (Retired), Joseph Henry McDougall (Solicitor), (Trustees for Petersham RSL Club) / Richard Joseph Heagney (Technical College Lecturer) Joseph Henry McDougall (Solicitor) (Trustees for Petersham RSL Club) / Patrick Westwood Sullivan (PMG Employee) Ronald Caro Ayrton (Fitter) (Trustees for Petersham RSL Club). Over Part 4: Richard Joseph Heagney (Technical College Lecturer), Thomas Henry Bosward (Retired), Joseph Henry McDougall (Solicitor), (Trustees for Petersham RSL Club) / Richard Joseph Heagney (Technical College Lecturer) Joseph Henry McDougall (Solicitor), (? Trustees for Petersham RSL Club) / Richard Joseph Heagney (Technical College Lecturer) Patrick Westwood Sullivan (PMG Employee), Ronald Caro Ayrton (Fitter) / Patrick Westwood Sullivan (Mail Officer), Elwyn Mullaney (Plumber), Maurice George Edward, Dennis (French Polisher), (Trustees for Petersham RSL Club) Over Part 5: Richard Joseph Heagney (Technical College Lecturer), Thomas Henry Bosward (Retired), Joseph Henry McDougall (Solicitor) (? Trustees for Petersham RSL Club) / Richard Joseph Heagney (Technical College Lecturer), Joseph Henry McDougall (Solicitor), (Trustees for Petersham RSL Club) / Richard Joseph Heagney (Technical College Lecturer) Patrick Westwood Sullivan (PMG Employee), Ronald Caro Ayrton (Fitter), (Trustees for Petersham RSL Club) / Patrick Westwood Sullivan (Mail Officer), Elwyn Mullaney (Plumber), Maurice George Edward Dennis (French Polisher) (Trustees for Petersham RSL Club). Over Part 6: Solman Kellerman (Investor) / Clifton William Carr (Cellarman) Mary Elizabeth Carr (Married Woman) / # Petersham R.S.L. Club Limited Over Part 7: Harold William Stokes (Felt Hatter) Hazel Evelyn Louise Stokes (Married Woman) / # Petersham R.S.L. Club Limited	1961: Previously noted residential dwelling to the north of the site appears to have been demolished and a new building structure is situated in this location. RSL building is noted on site. Two residential dwellings sitated on the south western corner of the site remain unchanged.	Commercial

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1974 to Date	Over Part 1: Petersham R.S.L. Club Limited (1974 to date) Over Part 2: Petersham R.S.L. Club Limited (1974 to date) Over Part 3: Petersham R.S.L. Club Limited (1974 to date) Over Part 4: Petersham R.S.L. Club Limited (1974 to date) Over Part 5: Petersham R.S.L. Club Limited (1974 to date) Over Part 6: Petersham R.S.L. Club Limited (1973 to date) Over Part 7: Petersham R.S.L. Club Limited (1973 to date)	1982: New refurbishements and additions appear to have been made to the RSL building, An open carpark is noted north of the building 1999: New refurbishments and additions appear to have been made to the RSL building an open car park is noted north of the building. 2004: Site remains primarily unchanged with refurbishements and additions to the RSL. 2016: Site remains primarily unchanged since the 2004 aerial.	Commercial
As regard Site 2 , 13-17 Regent St, Petersham			
1915 - 1950	Over Part 1: William James Watson (Ironmonger) / William McCormack (Gentleman), Eva May McCormack (Married Woman) Over Part 2: Archie Neathway Allen (Commission Agent), James Richmond McKie (Bank Officer) Over Part 3: Emma Alice Palmer (Married Woman), Andrew Richard Rogers (Engineer), David Hill (Police Officer), Kate Hill (Widow) (Transmission Application not investigated) / Ethel Lillian Rowland (Widow) Over Part 4: Benjamin Patrick Lloyd (Inspector of Nuisance) / Edith Florence Lloyd (Widow) / Bridget Corbett (Widow) / Catherine Corbett (Spinster) Veronica Mary Corbett (Spinster) Over Part 5: Emma Alice Palmer (Married Woman) / Roy William Bradshaw (Dental Mechanic), Nancy Sybil Bradshaw (Married Woman).	1930: The site appears to be occupied by four residential dwellings and associated sheds. 1943: Site remains primarily unchanged from the 1930's aerial.	Residential

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1950 - 1960	Over Part 1: Eva May McCormack (Widow) / Alister Garnet Lindsay Harris (Chartered Accountant), Alexander Bernard Samuelson (Solicitor) Over Part 2: Emily Sara McKie (Married Woman) Over Part 3: Eric Hayton (Clerk) Over Part 4: Catherine Corbett (Spinster) Veronica Mary Corbett (Spinster) Over Part 5: Phyllis Mary Allwood (Femme Sole)	1951: Site remains primarily unchanged form the 1930's aerial.	Residential
1960 - 1990	Over Part 1: Oliver Maitland Clout (Dry Cleaner) / Leslie Ann Whyte Maree Oates Over Part 2: Vincenzo Baldini (Supervisor) / Luigi Barbati (Factory Worker) Maria Italia Barbati (Married Woman) / Sergio Alvarez (Cook) Martha Alvarez (Married Woman) Over Part 3: Phyllis Mary Allwood (Femme Sole) / Daryl Hamilton Allwood (Motor Mechanic) Over Part 4: Catherine Corbett (Spinster) Over Part 5: Daryl Hamilton Allwood (Motor Mechanic) / Muriel Louisa Adams	1961: Previously noted residential dwellings remain primarly unchanged since 1951's aerial.	Residential
1976 to Date	Over Part 1: Petersham R.S.L. Club Limited (1981 to date) Over Part 2: Petersham R.S.L. Club Limited (1989 to date) Over Part 3: Petersham R.S.L. Club Limited (1990 to date) Over Part 4: Petersham R.S.L. Club Limited (1976 to date) Over Part 5: Petersham R.S.L. Club Limited (1970 to date)	1982: Site remains primarily unchanged since the 1961 aerial. 1999: Previously noted residential dwellings have been demolished, an open car park occupies the site. 2004: Site remains primarily unchanged since 1999 aerial. 2016: Site remains primarily unchanged since the 2004 aerial.	Residential / Commercial

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
As regard Site 3 , 287-309 Trafalgar St, Petersham			
As regards Lot 1 D.P. 1208130			
1911 - 1950	Over Part 1: Robert William Fozzard (Lime & Cement Merchant) / Allan Manning Fozzard (Lime & Cement Merchant) Over Part 2: William David Jones (Wood & Coal Merchant) / Frederick Arthur Jones (Fuel Merchant) Over Part 3: Richard Thomas Ball (Gentleman) / William Henry Burns (Lime & Cement Merchant), Edward John Burns (Lime & Cement Merchant), James Thomas Burns (Lime & Cement Merchant) / Allan Manning Fozzard (Merchant) Over Part 4: Richard Thomas Ball (Gentleman) / William Henry Burns (Lime & Cement Merchant), Edward John Burns (Lime & Cement Merchant) James Thomas Burns (Lime & Cement Merchant) / Allan Manning Fozzard, (Merchant)	1930: Three warehouse buildings are noted covering the entire footprint of the site. 1943: Site remains primarily unchanged form the 1930's aerial.	Commercial / Industrial
1950 - 1960	Over Part 1: C.S. McCallum Holdings Pty Limited Over Part 2: F. Lowry Pty Limited Over Part 3: Allan Manning Fozzard (Merchant) Over Part 4: Allan Manning Fozzard (Merchant)	1951: Site remains primarily unchanged form the 1930's aerial.	Commercial / Industrial
1960 - 1970	Over Part 1: C.S. McCallum Holdings Pty Limited Over Part 2: Leonard Craig Fozzard (Manager), Robert Alexander Fozzard (Engineer), Allan Victor Fozzard (Student, now Engineer), Valerie Irene Fozzard (Student), Now Valerie Irene Forshaw (Married Woman) Over Part 3: Allan Manning Fozzard (Merchant) Over Part 4: Leonard Craig Fozzard (Company Manager), David Terence Panckhurst (Solicitor)	1961: The three warehouses previously noted remain on site with minor alterations and refurbishements. New additions are noted on the warehouse to the east.	Commercial / Industrial
1970 - 2015	Over Part 1: C.S. McCallum Holdings Pty Limited (1964-2015) Over Part 2: E.S. McCallum Holdings Pty Limited (1976-2015) Over Part 3: Leonard Craig Fozzard (Manager), Robert Alexander Fozzard (Engineer), Valerie Irene Lambert , Fozzard Nominees Pty Limited / Fozzard Nominees Pty Limited (1985-1988) / E.S. McCallum Holdings Pty Limited (1988-2015) Over Part 4: Leonard Craig Fozzard (Manager), Robert Alexander Fozzard (Engineer), Valerie Irene Lambert , Fozzard Nominees Pty Limited / Fozzard Nominees Pty Limited (1986-1988), E.S. McCallum Holdings Pty Limited (1988-2015)	1978: Site remains primarily unchanged since the 1961 aerial. 1999: Site remains primarily unchanged since the 1978 aerial. 2004: Site remains primarily unchanged since 1999 aerial.	Commercial / Industrial

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
2015 to date	Over Part 1 to 4 Deicorp Projects Pty Ltd	2016: Site remains primarily unchanged since the 2004 aerial.	Commercial / Industrial
As regards Lot 10 D.P. 1004198			
1911 - 1950	Over Part 1: Samuel Wilkinson (Wesleyan Minister) / Elizabeth Hannah Wilkinson (Spinster) / Ruby Wilkinson (Spinster), Thomas Wilkinson Moffitt (Commonwealth Servant) / Felix Placid Hunt (Mantle Manufacturer). Over Part 2: Sarah Ann Knight (Married Woman) / John Henry West, Betsy West (Married Woman) / Betsy West (Widow) Over Part 3: Samuel Ritchie (Estate Agent) Over Part 4: Henry Maughan (Gentleman) / Walter Henry Everitt (Builder) Over Part 5: Henry Maughan (Gentleman) / Thelma Irene Wilson (Married Woman) Over Part 6: Henry Maughan (Gentleman) / Jaroslav Zelinka / Phyllis Bell (or Belle) MacDonald (Married Woman)	1930: The site appears to be occupied by four residential dwellings with associated sheds. Two residential dwellings with trees situated on the northern, southern and western boundary are situated to the south of the site. 1943: Site remains primarily unchanged from the 1930's aerial.	Residential
1950 - 1960	Over Part 1: Felix Placid Hunt (Mantle Manufacturer) Over Part 2: Arthur West (Engineer), Edith West (Spinster), Margaret West (Spinster). Over Part 3: Electrolux Pty Limited (1957-1979) Over Part 4: Stuart Edward Charles Evans (Gentleman) Faith Patricia Evans (Married Woman) Over Part 5: Thelma Irene Wilson (Married Woman) Over Part 6: Isabel Haidee Cull (Spinster)	1951: Site remains primarily unchanged from the 1930's aerial.	Residential

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1960-1984	Over Part 1: Alecia Hall Winston (Married Woman) / Petersham R.S.L. Club Limited Over Part 2: Arnold Swan Young (Company Director) / Patrick Westwood Sullivan (Mail Officer), Elwyn William Mullaney (Plumber) Neville Leigh Saunders (Salesman), (Trustees for Petersham RSL Club) / Patrick Westwood Sullivan (Mail Officer), Elwyn Mullaney (Plumber), Maurice George Edward Dennis (French Polisher), (Trustees for Petersham RSL Club) / Petersham R.S.L. Club Limited Over Part 3: Radio and General Agencies Pty Limited (1979-1990) Over Part 4: Electrolux Pty Limited (1966-1979) Over Part 5: Torlee Properties Pty Limited (1964-1984) Over Part 6: Gregorio Diaz (Plumber), Francisca Diaz (Married Woman) / Natale, Rizzo (Carpenter) / Christos Stavris (Process Worker), Despina Stavris (Married Woman)	1961: A new building structure is noted on the north eastern corner of the site. Three residential properties previously noted remain on site. The two residential dwellings with a few trees remain south of the site.	Residential / Commercial
1985-1991	Over Part 1: Petersham R.S.L. Club Limited Over Part 2: Arthur West (Engineer), Edith West (Spinster), Margaret West (Spinster). Over Part 3: Electrolux Pty Limited (1957-1979) / Radio and General Agencies Pty Limited / Silhbat Pty Limited Over Part 4: Stuart Edward Charles Evans (Gentleman) Faith Patricia Evans (Married Woman) / Electrolux Pty Limited (1966-1979) / Radio and General Agencies Pty Limited (1979-1990) / Silhbat Pty Limited (1990-1992) Over Part 5: Thelma Irene Wilson (Married Woman) / Torlee Properties Pty Limited (1964-1984) / Allenby Dadisho George Over Part 6: Isabel Haidee Cull (Spinster) / Gregorio Diaz (Plumber) Francisca Diaz (Married Woman) / Natale Rizzo (Carpenter) / Christos Stavris (Process Worker) Despina Stavris (Married Woman) / Paul Milne	1982: A new building structure is situated on the north eastern side of the site. Previously noted residential dwellings appeared to have been demolished and a constructed open car park is situated on the southern side of the site. 1999: What appeared to be a residential structure to the east of the site appears to have been demolished.	Commercial

Period	List of Owners in the Period (Refer to Appendix D for further details)	Site description based on historical aerial photographs	Potential Land Uses
1992 to date	Over Part 1: Petersham R.S.L. Club Limited (1975 to date) Over Part 2: Petersham R.S.L. Club Limited (1974 to date) Over Part 3: Petersham R.S.L. Club Limited (1992 to date) Over Part 4: Petersham R.S.L. Club Limited (1992 to date) Over Part 5: Petersham R.S.L. Club Limited (1991 to date) Over Part 6: Petersham R.S.L. Club Limited (1991 to date)	2004: Previously noted structure appears to have been demolished and an open car park is situated on site. 2016: Site remains primarily unchanged since the 2004 aerial.	Commercial

Land title records and historical aerial photographs suggested that:

- Use of Site 1 was primarily residential until the 1960s when it was redeveloped for Petersham RSL. The building structure appeared to have undergone multiple refurbishements and additions throughout the years.
- Use of Site 2 was primarily residential until the 1970s when residential structures on site were demolished for the construction of the open car park.
- Lot 1 of Site 3 has remained commercial / industrial since the 1930's, occupied by lime & cement Merchants and fuel merchants until the 1950s when McCallum Holdings Pty Ltd appears to be the proprietor of the site. A company specialised in the ball bearing manufacture.
- Lot 10 of site 3 has remained mainly residential / commercial. Part of the site being occupied by residential proprietors and part by mantle manufacturers until 1957 when Electrolux appears to be the proprietor of part of the site until approximately 1979 when the owner of the property appears to be the RSL Club.

3.2 SURROUNDING LANDS HISTORICAL AERIAL PHOTOGRAPHY REVIEW

As part of the Historical 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 3-2.

Table 3-2 Summary of Aerial Photograph Review

Aerial Photograph	Surrounding land uses based on historical aerial photographs
1930: 20 February 1930, Map 3428, Run 16, B/W	Areas north and south of site 1 were occupied by residential dwellings, east of the site was dominated by likely residential and commercial structures. Lands to the west of the site appeared to be residential. Area north, east and west of site 2 was occupied by residential dwellings and area to the south by a circular open space lot. Area north of site 3 is occupied by a rail corridor with Petersham Station situated to the north east, residential dwellings occupy properties to the east and south and what appears to be commercial and residential properties occupy the west of the site.
1943: 1943 Sydney Imagery (source : http://maps.six.nsw.gov.au/)	Surrounding land uses remain primarily unchanged from the 1930's aerial.
1951: May 1951, Run 12, B/W, Map 467-52 – Lands Photo	Surrounding land uses remain primarily unchanged from the 1943 aerial a higher density of residential housing is noted to the north and south of the site.
1961: 1961, B/W, NSW 1042-5016 – Lands Photo;	Surrounding land uses remain primarily unchanged from the 1950's aerial.The dominant uses on surrounding lands remained as commercial / industrial and residential.
1982: 1982, Run 17, NSW 3240-38 – Lands Photo	The dominant uses on surrounding lands remained as commercial / industrial and residential. Petersham Reservoir (Sydney Water WS0204) is noted on the previously noted circular open space lot to the south of Site 2.
2016: 2016 Aerometrex Imagery (accessed on Google Earth)	Surrounding land uses remain primarily unchanged from the 1982 aerial.The dominant uses on surrounding lands remained as commercial / industrial and residential.

3.3 COUNCIL INFORMATION

A search of historical records held by Marrickville City Council pertaining to the site was requested by EI. Correspondences dated 4 March 2016 from Marrickville City Council indicated files were identified in Council records. The files were inspected by EI subsequently and a summary of information obtained from the files is presented in Table 3-3

Table 3-3 Summary of Historical Records Archived at Marrickville City Council

Period / Year	Document Reference	Description
291 Trafalgar Street, Petersham		
1962	DA 287	Applicant: Electrolux Pty Ltd Nature of existing premises: Commercial Nature of porposed development: Erection of a radio mast. Recommendation: Approved 6 June 1996

Period / Year	Document Reference	Description
1966	DA 407	Applicant: Electrolux Pty Ltd Nature of existing premises: Commercial Nature of porposed development: Alterations to premises Recommendation: Approved 1966
13-17 Regent Street, Petersham		
1969	BA 297	Applicant: Gordon P O'Donnel Owner: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: Additions to club premises over car park. Recommendation: Approved
1979	DA 111	Applicant: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: Car Park for 22 spots and landscaping to the Fisher Street frontage and planting along the side boundary. Recommendation: Approved
3-7 Regent Street, Petersham		
1957	DA 24	Applicant: Doris Brines Nature of existing premises: Residential Nature of porposed development: Demolition of garage Former land use: Residential Recommendation: Approved
1960	BA 161	Applicant: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: Erection of new club premises. Background: In 12 April 1960 council approved the stablishment for the RSL Club. Former land use: Residential cottages. Site plans indicated the presence of fibro sheds. Recommendation: Approved 9 June 1960.
1970	DA 150	Applicant: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: Addition to club premises over carpark. Former Land use: Residential cottages Recommendation: Approved.

Period / Year	Document Reference	Description
1978	DA 199	Applicant: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: Extension to club premises at No. 7A Regent Street, Petersham. Recommendation: Approved.
2008	DA 200600425	Applicant: James Clifford Construction Owner: Petersham RSL Club Nature of existing premises: Commercial Nature of porposed development: New smokers terraces to the ground and first floor areas, New Bistro / café servery and refurbished gaming and bistro launge. Recommendation: Approved 5 January 2007.

As shown in Table 3-3, the earliest council records pertaining to the site dated in 1961. The RSL Club was stablished on the 1960's, since then various refurbishments and additions have been made to the club premises including the construction of carparking areas at 13-17 Regent Street and at 287-295 Trafalgar Street.

3.4 WorkCover NSW Authority Search

WorkCover NSW Authority records relating to the site were requested from the Dangerous Goods Licensing Section, indicated that no records were found in the Stored Chemical Information Database or microfiche records. Copies of the correspondences are provided in Appendix E.

3.5 Hazardous Chemicals and Regulatory Compliance

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

On 21 March 2016, an on-line search of the EPA *Contaminated Land – Record of EPA Notices* was conductedto identify,

- 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 EPA under section 53B of the CLM Act that relate to significantly contaminated land
- actions taken by EPA under section 35 or 36 of the Environmentally Hazardous Chemicals Act 1985 (EHC Act) This search confirmed that the NSW OEH has no regulatory involvement under Section 58 of the CLM Act 1997 in relation to Site 1, Site 2 or Site 3.

3.5.2 List of notified contaminated sites

Review of the notified sites under Section 60 of the *CLM Act* 1997 was conducted on 21 March 2016 and indicated the site was not notified. This list includes properties on which contamination has been identified. Not all notified land

is deemed to be impacted significantly enough to warrant regulation by the EPA. The search found one notified properties within 1.0 km of the site:

- Fanny Durack Aquatic Centre at Station Street, Petersham, approximately 400 north-west of the site. The list indicated the property was under assessment. This property is not regarded as a potential offsite contamination sources as it is located down-gradient relative to the site.

3.5.3 POEO Public Register

A search of the *Protection of the Environment Operations (POEO) Act Public Register* on 21 March 2016, did not identify environmental protection licences, applications, notices, audits and pollution studies pertaining to the site or properties within 1 km of the site.

4. 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, a preliminary conceptual site model (CSM) was developed to assess plausible linkages between potential contamination sources, migration pathways and receptors. The preliminary CSM was derived based on desktop study findings and provided a framework to review the reliability and useability of collected data and to identify data gaps in site characterisation works.

4.1 SUBSURFACE CONDITIONS

4.1.1 Site Geology and Subsurface Conditions

The site is underlain by Ashfield Shale of Wianamatta Group (Rwa), which typically comprises black to dark-grey shale and laminite. (Ref. 1:100 000 scale Geological Series Sheet 9130 (Sydney). The general site geology is likely to be described as a layer of anthropogenic filling overlying sandy clays and shale at depth. The general geology encountered during this DSI may be described as:

- Gravelly sand fill from 0.05-0.5 (max) mBGL;
- Sandy clay fill from 0.05 to 1.5 (max) mBGL;
- Silty Clay fill from 0.05 to 1.89 (max) mBGL;
- Fill soil profiles are likely to vary in areas of deeper tank pits;
- Silty Clays, from 0.05 to 3 BGL;
- Shale from approximately 2.1 to 17.5+ mBGL

4.1.2 Site Hydrology

Given the general topography of the site, it is assumed that groundwater flow will move towards the north west.

The main aquifer encountered in this DSI was located within fractured Ashfield Shale, the top of which was estimated at between 4.0 mBGL to 6.5 mBGL. This aquifer was considered to be a semi-confined to confined aquifer.

Groundwater flow through the Ashfield Shale is documented to be influenced by the bedrock fracture system with hydraulic conductivities estimated to range between 8.6 $x10^{-9}$ and 1.7$x10^{-4}$ m/day (Domenico and Schwartz, 1990).

Porosity of shale varies between 0% and 10% (DIPNR, 2005), while porosity in clay varies between 45% and 55%. Aquifer porosity in shale, however, is largely governed by the presence of discontinuities in the rock mass.

4.2 CHEMICAL HAZARDS AND CONTAMINATION SOURCES

On the basis of site inspection findings (Section 2) site history, EI considered the potential chemical hazards and onsite contamination sources to be as follows:

- Fill materials of unknown origin and quality;
- Impacts from long-term commercial / industrial use of the site, for metal foundry and fabrication;

- Impacts from long-term oil / gasoline leaks from parked vehicles;
- Potential leakage from aboveground and underground petroleum storage systems (UPSS) including USTs, underground fuel lines, fill points, etc.;
- Weathering of building structures (i.e. painted surfaces, metallic structures, etc.);
- Hazardous building materials including, potential asbestos-containing materials resulted from uncontrolled demolition of former residential structures on-site;
- Potential residues from pesticides use under site building structures for the control of termites;
- Hazardous building products present in existing structures.

4.3 POTENTIAL CHEMICALS

Based on the findings of the site history review, the site walkover inspection and the presence of USTsthe potential chemicals at the site were considered to be:

- Soil – heavy metals (HMs), total recoverable hydrocarbons (TRH), polycyclic aromatic hydrocarbons (PAH), the monocyclic aromatic hydrocarbon (MAH) compounds benzene, toluene, ethylbenzene and xylenes (BTEX), organochlorine and organophosphorus pesticides (OCP/OPP), polychlorinated biphenyls (PCB), total phenols, volatile organic compounds (VOC), and asbestos; and
- Groundwater – HMs, TRH, BTEX, PAH, VOCs.

4.4 POTENTIAL SOURCES, EXPOSURE PATHWAYS AND RECEPTORS

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this assessment are summarised in Figure 5.1

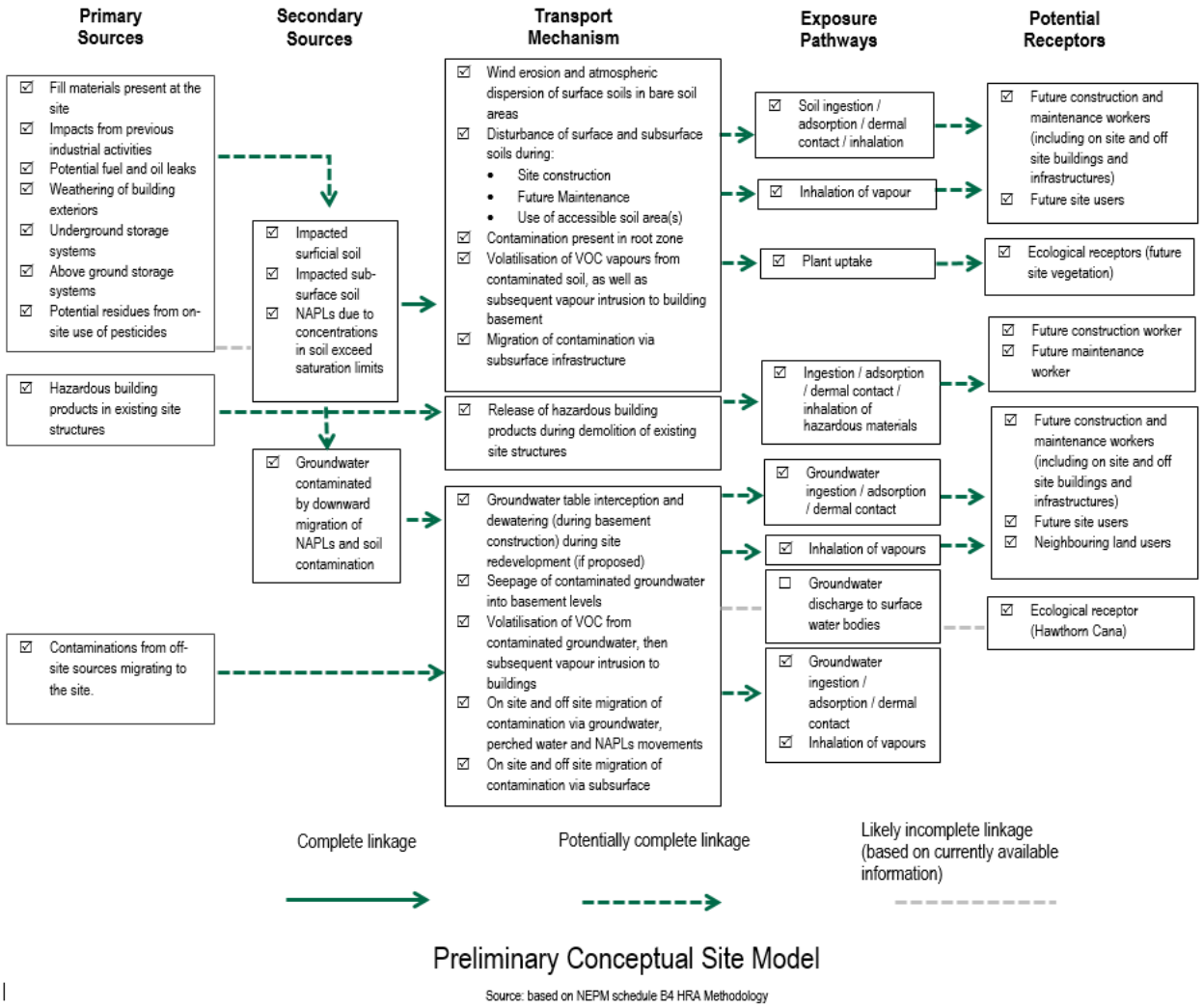


Figure 4-1 Preliminary Conceptual Site Model

4.5 CSM Overview

Potential contamination sources, exposure pathways and human and environmental receptors that were considered relevant for this assessment are summarised along with a qualitative assessment of the potential risks posed by complete exposure pathways in

Table 4-1 Preliminary Conceptual Site Model

Site Area	Subsurface Profile	Potential Sources	Potential Contaminants	Media	Sensitive Receptor	Migration & Exposure Pathways	Potential Risk of Complete Exposure Pathway
Site 1 (3-7 Regent Street)	Fill (Silty Clays) overlying Residual soil (Clays) and weathered shale at depth. Depth of shale >3.4 m.	Commercial activities, asbestos containing materials from demolition of previously existing residential dwellings , filling, termiticides, lead paint, vehicle parking, leaks from above ground Diesel storage tank, general waste.	Pesticides for terminte control, Heavy Metals, Petroleum Hydrocarbons (including PAHs), OCPs, Asbestos, Unknown	Building fabric Soils Groundwater Air/Soil Vapour LNAPL/DNAPL (if present)	Hawthorn Canal Site Workers during demolition and construction Future site residents	Seepage into the subsurface soils and groundwater. Dermal Contact Ingestion Inhalation	M – H (should contamination be present) L (post development)
Site 2 (13-17 Regent Street)	Fill (Silty Clays), overlying Residual soil (Silty Clays) and distinctly weathered shale at depth. Depth of Shale > 2.1 m.	Vehicle parking, general waste asbestos containing materials from demolition of previously existing residential dwellings, lead paint from administrative structure on the south eastern side of site	Pesticides for terminte control, Heavy Metals, Petroleum Hydrocarbons (including PAHs), OCPs, Asbestos, Unknown	Building fabric Soils Groundwater Air/Soil Vapour LNAPL/DNAPL (if present)	Hawthorn Canal Site Workers during demolition and remediation. Future site residents	Seepage into the subsurface soils and groundwater Dermal Contact Ingestion Inhalation	M – H (should contamination be present) L (post development)

Site 3 (287-309 Trafalgar Street)	Fill (Silty Clays), overlying, Residual soil (Silty Clays) and extremely weathered shale at depth. Depth of shale >3.3 m.	Commercial / industrial activities (metal foundry), asbestos containing materials, filling, termiticides, lead paint, vehicle storage, chemical storage, spray paint containers, general waste.	Pesticides, Heavy Metals, Petroleum Hydrocarbons (including PAHs), OCPs, Acid Sulfate Soils, Asbestos, VOCs, Unknown	Building fabric Soils, Groundwater Air/Soil Vapour LNAPL/DNAPL (if present)	Hawthorn Canal Site Workers during demolition and construction Future site residents	Seepage into the subsurface soils, and groundwater. Dermal Contact Ingestion Inhalation	M – H (should contamination be present) L (post development)

Notes: L = Low Risk; M = Moderate Risk; H = High Risk

4.6 POTENTIAL DATA GAPS

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

- The presence of onsite contamination from identified sources (listed in Section 4) require confirmation;
- The degree and extent of onsite contamination, if any;
- Uncertainty in regard to the condition of Underground Storage Tanks (USTs) on-site, and the extent and degree of consequent soil and groundwater contaminations;
- Uncertainty in regard to the extent and degree of contamination if any in regard to the Above Storage Tank; and
- Potential presence of any contamination from other unknown onsite and offsite sources.

5. METHODOLOGY

5.1 SAMPLING, ANALYTICAL AND QUALITY PLAN (SAQP)

The SAQP ensures the environmental works carried out at the site are representative, and provide a robust basis for site assessment decisions and includes:

- Data quality objectives, including a summary of the objectives of the DSI;
- 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.

5.2 DATA QUALITY OBJECTIVES (DQO)

In accordance with the US EPA (2006) *Data Quality Assessment* and the DEC (2006) *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 5-1.

Table 5-1 Summary of Project Data Quality Objectives

DQO Steps (NSW DEC, 2006)	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 current site is to be demolished and redeveloped into a 9 storey building with associated two level basement car parking facility covering the majority of the site footprint of Site 1, a five storey building with associated three level basement car parking facilities across the majority of Site 2 and a seven storey building with associated four level basement car parking facilities for Site 3. • The historical information and site inspection identified potential for contamination to be present in the site soil and/or groundwater, contributed by various potential sources. Based on the site history information collected, a preliminary conceptual site model of the site has been developed, and is present in Section 4. • The investigation sampling must provide supportive information on the environmental conditions of the site to determine the site's suitability for the proposed development.	
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	A site walkover inspection identified the site may be subjected to previous importation of fill of unknown origin for site levelling. The inspection also noted potential presence of asbestos-containing materials within the existing site structures, as well as proximity of a railway corridor may influence the quality of site soils. A review of the land titles suggested previous industrial and commercial activities as a possible source of contamination. Based on the objectives outlined in Section 1.4, the decisions that need to be made are: • Has the nature, extent and source of any soil and vapour impacts onsite been defined? • What impact do the site specific, geologic and hydrogeological conditions have on the fate and transport of any impacts that may be identified? • Does the level 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, if necessary?	

DQO Steps (NSW DEC, 2006)	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: • Aerial photographs, historical Land Title records, WorkCover hazardous chemical storage records, proposed development plans, Council requirements as stipulated in Development Consent letters; • Areas of concern identified during the site inspection prior to intrusive investigations; • National and NSW EPA guidleines under the NSW Contaminated Land Management Act 1997; • Soil samples obtained from an intrusive investigation in locations, and to depths deemed appropriate for detailed investigation purposes (or prior auger refusal); • Investigation sampling to verify the presence of onsite contamination and to evaluate the potential risks to sensitive receptors; • Laboratory analysis of selected soil samples will comprise contaminants of concern presented in Section 7; and • At the end of the assessment, a decision must be made regarding whether soils 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 – Site 1 is located between residential properties to the north, Fisher Street south, Marrickville Council Chambers east and Regent Street west. Site 2 is located between Fisher Street north, New Canterbury Road south, residential properties east and Regent Street west. Site 3 is bound by Trafalgar Street north, residential properties south, Regent Street east and commercial properties west. Vertical – From existing ground level, underlying fill and natural soil horizons; and Temporal – The results will be valid on the day samples are collected and will 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 – the extent of the study onsite was limited to accessible areas of the site due to existing building structures, infrastructure, and provision of access by site tenants.

DQO Steps (NSW DEC, 2006)	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 5-2.	
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	Specific limits for this project are to be in accordance with the National and NSW EPA guidance, and appropriate indicators of data quality and standard procedures for field sampling and handling. This should include the following points to quantify tolerable limits: • The null hypothesis for the investigation is that: – The 95% Upper Confidence Limits (UCL) of the mean for contaminants of concern exceed relevant residential, recreational land use criteria across the site. • Sampling on a 22 m grid will allow detection of a circular hotspot with a nominal diameter of 26 m with 95% certainty; • The acceptance of the site will be based on the probability that – The 95% UCL of the mean of the data will satisfy the given site criteria. Therefore a limit on the decision error will be 5% that a conclusive statement may be incorrect; and – The standard deviation of the results is less than 50% of the relevant remediation acceptance criterion; and – No single results exceeds the remediation acceptance criteria by 250% or more; and • Soil concentrations for chemicals of concern that are below investigation criteria made or approved by the NSW EPA will be treated as acceptable and indicative of suitability for the proposed land use(s); and	• Due to the existing site structures on-site, a systematic sampling pattern was not achieved in this DSI. As a result, the reliability of detecting a circular hotspot of diameter 26 m could not be achieved with certainty using the adopted sampling pattern. • The DSI primarily adopted a targeted sampling pattern, focusing on identified areas of environmental concern. As such, individual soil data points were assessed solely against adopted criteria.

DQO Steps (NSW DEC, 2006)	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	• The site area of 9,800 m^2 required a minimum of 21 sampling points according to EPA (1995); • Soil sampling locations were set using a systematic sampling pattern across the accessible areas of the site with allowance for structural obstacles; • An upper soil profile sample (or soil extracted immediately beneath the concrete hardstand / pavement) will be collected at each borehole location and tested for chemicals of concern, to assess the conditions of fill layer, and impacts from activities above ground. Further sampling would also be carried out at 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) whilst giving consideration to characterise the subsurface stratigraphy; and • Written instructions will be issued to guide field personnel in the required fieldwork activities.	

5.3 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 5-2, which related to both field and laboratory-based procedures. The assessment of data quality is discussed in Section 6.

Table 5-2 Data Quality Indicators

Data Quality Objective	Data Quality Indicator
Precision – A quantitative measure of the variability (or reproducibility) of data	Data precision would be assessed by reviewing the performance of blind field duplicate sample sets, through calculation of relative percentage differences (RPD). Data precision would be deemed acceptable if RPDs are found to be less than 30%. RPDs that exceed this range may be considered acceptable where: • Results are less than 10 times the limits of reporting (LOR); • Results are less than 20 times the LOR and the RPD is less than 50%; or • Heterogeneous materials or volatile compounds are encountered.
Accuracy – A quantitative measure of the closeness of reported data to the "true" value	Data accuracy would be assessed through the analysis of: • Method blanks, which are analysed for the analytes targeted in the primary samples; • Matrix spike and matrix spike duplicate sample sets; • Laboratory control samples; and • Calibration of instruments against known standards.
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory is representative of conditions encountered in the field, the laboratory would carry out the following: • Blank samples will be run in parallel with field samples to confirm there are no unacceptable instances of laboratory artefacts; • Review of relative percentage differences (RPD) values for field and laboratory duplicates to provide an indication that the samples are generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; and • The appropriateness of collection methodologies, handling, storage and preservation techniques will be assessed to ensure/confirm there was minimal opportunity for sample interference or degradation (i.e. volatile loss during transport due to incorrect preservation / transport methods).
Completeness – A measure of the amount of useable data from a data collection activity	Analytical data sets acquired during the assessment will be evaluated as complete, upon confirmation that: • Standard operating procedures (SOPs) for sampling protocols were adhered to; and • Copies of all COC documentation are presented, reviewed and found to be properly completed. It can therefore be considered whether the proportion of "useable data" generated in the data collection activities is sufficient for the purposes of the land use assessment.
Comparability – The confidence (expressed) qualitatively) that data may be considered to be equivalent for each sampling and analytical event.	Given that a reported data set can comprise several data sets from separate sampling episodes, issues of comparability between data sets are reduced through adherence to SOPs and regulator-endorsed or published guidelines and standards on each data gathering activity. In additions the data will be collected by experienced samplers and NATA-accredited laboratory methodologies will be employed in all laboratory testing programs.

5.4 SAMPLING RATIONALE

With reference to the preliminary CSM described in Section 4, soil investigation works were planned in accordance with the following rationale:

- Sampling fill and natural soils from twenty one (21) test bore locations located systematically across the site using a grid-based sampling pattern with allowance for structural obstacles to characterise in-situ soils;
- Sampling groundwater during a single groundwater monitoring event (GME) at seven newly installed groundwater monitoring wells on-site to assess potential groundwater contamination; and
- Laboratory analysis of representative soil samples for the identified chemicals of concern.

5.5 INVESTIGATION CONSTRAINTS

With regard to the scope of works proposed for performing intrusive site investigations, the following investigation constraints were encountered:

- Access to internal areas of the RSL Club was unavailable due to limited drilling rig head clearance, limited space within the buildings, and current operations being performed with the site building.
- Access to internal areas of building structures at 295 - 309 Trafalgar Street were limited due to limited space within buildings and limited rig head clearance.
- Access to internal areas of the basement carpark situated at Regent Street across the RSL Club and the carpark situated at the north eastern side of the RSL Club were limited, due to limited head clearance, drainage, communications, power services and connections and accessibility to the area.

5.6 ASSESSMENT CRITERIA

The assessment criteria proposed for this project are outlined in Table 5-2. 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 5-3 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) On regards Based on the proposed site configuration and proposed high density residential land use: Site 1, Site 2 and Site 3 would be assessed against the NEPM 2013 criteria for HIL-B thresholds for residential sites with minimal opportunities for soil access. Ecological Investigation Levels (EILs) Based on the proposed site configuration and proposed land use: The north eastern, western and southern boundary of Site 1 and the western and south eastern boundary of Site 2 (soil location samples BH9M, BH11M, BH12M, BH25, and BH27) would also be assessed against the NEPM 2013 EILs for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene, which have been derived for protection of terrestrial ecosystems. Derived EIL criteria are presented in Table 5-3. Soil Health-based Screening Levels (HSLs) The NEPM 2013 Soil HSL-A&B thresholds for low-high density residential sites for vapour intrusion would be applied to assess for potential human health impacts from residual vapours resulting from petroleum, BTEX & naphthalene. Ecological Screening Levels (ESLs) North eastern, western and southern boundary of Site 1, western and south eastern boundary of Site 2 (soil location samples BH9M, BH11M, BH12M, BH25, BH26 and BH27) 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 from 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 Fresh Waters and Marine Waters ANZECC 2000 Trigger Values NEPM, 2013 Groundwater HSLs for Vapour Intrusion	Groundwater Investigation Levels (GILs) for Marine Waters 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 nearest potential surface water receptor in relation to the site was identified as Parramatta River which ultimately discharges to Sydney Harbour which is identified as a Marine Waters system, GILs for Marine Waters are adopted in this limited investigation to assess groundwater quality. Due to the ANZECC (2000) criteria for TRH being below the laboratory limit of reporting, the PQL for each TRH fraction was adopted as the GIL for aquatic ecosystems, in accordance with the procedure described in DEC (2007) *Guidelines for the Assessment and Management of Groundwater Contamination*. Samples are assessed against Region 9 SSL for VOC's. Region 9 SSL are screening levels for tap water set by USEPA drinking-water standards that

Environmental Media	Adopted Guidelines	Rationale
		set the maximum permissible level of contamination in water that is delivered to any user of a public water system (U.S.EPA, 2006) Health-based Screening Levels (HSLs) The NEPM 2013 groundwater HSLs for vapour intrusion are used to assess potential human health impacts from residual vapours resulting from petroleum, BTEX and naphthalene contamination. In the absence of land use details on each level of the proposed development, the *HSL A & B* thresholds for residential sites are applied as a conservative approach.

Table 5-4 Adopted ACL and ABC Values for EIL Derivation

Metal	EIL Assumptions [2]	EIL (mg/kg)
Arsenic	Generic EIL (urban residential / public open space)	100
Zinc	ABC - 15 mg/kg (assumes an old NSW high traffic suburb) ACL - 180 mg/kg (assumes pH=5.5 and CEC=5 in an urban residential / public open space)	195
Copper	ABC - 30 mg/kg (assumes an old NSW high traffic suburb) ACL - 130 mg/kg (assumes pH 5.5)	160
DDT	Generic EIL (urban residential / public open space)	180
Lead	ABC – 160 mg/kg (assumes an old NSW high traffic suburb) ACL – 1,100 mg/kg (Generic ACL for urban residential / public open space)	1,260
Naphthalene	Generic EIL (urban residential / public open space)	170
Nickel	ABC - 5 mg/kg (assumes an old NSW high traffic suburb) ACL - 30 mg/kg (assumes a CEC of 5 for urban residential / public open space)	35
Chromium (III)	ABC – 15 mg/kg (assumes an old NSW high traffic suburb) ACL – 190 mg/kg (assumes a clay content of > 10% for urban residential / public open space)	205

Notes:
ACL - added contaminant limit; ACLs for urban residential and public open space were used for this project
ABC - ambient background concentration
The most stringent ACL values were adopted for Chromium (III), Copper, Lead, Nickel and Zinc, as site soil physiochemical properties (i.e. pH, CEC and clay content) were not tested (Ref. NEPM 2013 Schedule B1, Tables 1B(1), 1B(2), 1B(3) and 1B(4) *Soil-specific added contaminant limits*)
[1] Assumed values are based on NEPM 2013 Schedule B5(c) *Guideline on Ecological Investigation Levels for Arsenic, Chromium (III), Copper, DDT, Lead, Naphthalene, Nickel & Zinc*
[2] EIL = ABC + ACL, unless Generic EIL is applicable

For the purposes of this investigation, the adopted soil assessment criteria are referred to as the Soil Investigation Levels (SILs). SILs are presented alongside the analytical results in the corresponding summary tables, which are discussed in Section 7.

5.7 SOIL INVESTIGATIONS

The soil investigations conducted at the site are described in Table 5-3. Test bore locations are illustrated in Figure 2.

Table 5-5 Summary of Soil Investigation Methodology

Activity/Item	Details
Fieldwork	The site investigation was conducted on the 4, 9, 11 and 17t March 2016. A total of 21 boreholes (BH1 to BH4 and BH6 to BH7, BH9 to BH11, BH15 and BH16 to BH18 and BH20 to BH25 and BH 27) were drilled and sampled. Upon completion of the drilling, seven groundwater monitoring well were installed at BH1M, BH4M, BH6M, BH9M, BH10M, BH11M and BH15M.
Drilling Method & Investigation Depth	BH1 to BH7 and BH9 to BH11 and BH15 were drilled using a Hanjin D&B drill, BH16, BH17 and BH22 were hand augered and BH18 to BH21 and BH23 to BH27 were drilled using a Dando Dual Mast Terrier fitted with solid flight augers. Final bore depths ranged between 1.0 mBGL and 17.15 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 C.
Field Observations (including visual and olfactory signs of potential contamination)	Field observations made during the soil investigation are recorded on the borehole logs. A summary of the observations is provided in Section 7.
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 were separated from the primary samples and placed into glass jars; • A small amount of duplicate was collected from each soil samples and placed into zip-lock bag for Photo-ionisation Detector (PID) screening; and • 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 hand auger was decontaminated between sampling locations with potable water and decon until the auger was free of all residual materials. *Sampling Equipment* - Samples were collected via hand with a new pair of dedicated nitrile gloves for each sample and placed into laboratory prepared and pre-labelled sample jars.
Sample Preservation	Samples were stored in a refrigerated (ice-filled) 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 5.
Soil Vapour Screening	Screening for potential VOCs in collected soil samples was conducted using a PID; fitted with a 10.6 eV lamp at sampling location during the course of the fieldwork.

5.8 GROUNDWATER INVESTIGATIONS

The groundwater investigations conducted at the site are described in Table 5-4. The location of the monitoring wells is illustrated in Figure 2.

Table 5-6 Summary of Groundwater Investigation Methodology

Activity/Item	Details
Fieldwork	The groundwater monitoring wells (BH1M, BH4M, BH6M, BH9M, BH10M, BH11M and BH15M) were installed and developed on the 4, 9, 11 and 17 March 2016. Water level gauging, well purging, field testing and groundwater sampling were conducted on 25 and 29 March 2016 by an EI environmental engineer.
Well Construction	The groundwater monitoring wells were installed at varying dephs of 6 to 15.3 mBGL. Well construction details are tabulated in Table 7-4 and documented in the bore logs presented in Appendix F. Well construction was in general accordance with the standards described in NUDLC (2012) and comprised the following: • 50 mm (internal diameter), Class 18 uPVC, threaded, machine-slotted screen and solid casing; • Base and top of each well was sealed with a uPVC cap; • Annular, graded sand filter was used to backfill the well annulus from the bottom to minimum 500 mm above the top of screen interval; • Minimum 500 mm thick granular bentonite was applied above annular filter in order to seal the screened interval; • Drill cuttings were used to backfill the bore annulus to just below ground level; and • Surface completion comprised a steel road box cover finished flush with the concrete slab level.
Well Development	Well development was conducted after well installation. This involved agitation within the full length of the water column using a HDPE, disposable bailer, followed by removal of groundwater by the same bailer. Bailers were replaced between groundwater wells. Groundwater removal was continued until the monitoring wells were purged dry, or until further decrease in groundwater turbidity was not observed.
Well Gauging	All monitoring wells were gauged for standing water level (SWL, depth from ground level to groundwater) prior to well purging at the commencement of the GME. The gauging was conducted with an oil-water interface probe to assess for potential presence of phase-separated hydrocarbon (PSH). The measured SWLs are shown in Table 7-4.
Well Purging, Field Testing and Groundwater Sampling	Monitoring wells were purged and sampled using a bailer. Field measurement of water quality parameters was conducted on groundwater with a water quality meter (Hanna Multi Parameter 9829). Groundwater parameters tested in the field were Dissolved Oxygen (DO), Electrical Conductivity (EC), Redox, Temperature and pH. The measured parameters were recorded onto a field data sheet, along with the purged water volume at the time of measurement. Total water volume purged and stabilised groundwater parameters at each groundwater monitoring well are summarised in Table 7-4.
Sample Preservation	The following sample containers supplied by the laboratory were used to store groundwater samples: • One, amber glass, acid-washed and solvent-rinsed bottle; • Two, 40 ml amber glass vials, pre-preserved with dilute hydrochloric acid, Teflon-sealed; and

Activity/Item	Details
	• One, 250 mL, HDPE bottle, pre-preserved with dilute nitric acid (1 mL). Samples collected for heavy metal analysis were field-filtered using 0.45 µm pore-size filters. All containers were filled with sample to the brim then capped and stored in ice-filled chests, until completion of the fieldwork and during sample transit to the laboratory.
Quality Control & Laboratory Analysis	All groundwater samples were submitted for analysis of previously-identified chemicals of concern by SGS Laboratories (SGS). QA/QC testing comprised testing of rinsate blank and trip blank samples. All samples were transported under strict Chain-of-Custody (COC) conditions. COC certificates and laboratory sample receipt documentation were provided to EI for confirmation purposes.
Sample Transport	After sampling, refrigerated sample chests were transported to SGS Australia Pty Ltd using strict Chain-of-Custody (COC) procedures. A Sample Receipt Advice (SRA) was provided by the laboratory to document sample condition upon receipt. Copies of SRA and COC certificates are presented in Appendix H.

6. DATA QUALITY ASSESSMENT

The assessment of data quality is defined as the scientific and statistical evaluation of environmental data to determine if these data meet the objectives of the project (Ref. US EPA, 2006). Data quality assessment includes an evaluation of the compliance of the field sampling and laboratory analytical procedures and an assessment of the accuracy and precision of these data from the laboratory quality control measurements obtained.

The data quality assessment process for this assessment included a review of analytical procedures to confirm compliance with established laboratory protocols and an assessment of the accuracy and precision of analytical data from a range of quality control measurements. The QC measures generated from the field sampling and analytical program were as follows:

- Suitable records of fieldwork observations including borehole logs;
- Relevant and appropriate sampling plan (density, type, and location);
- Use of approved and appropriate sampling methods;
- Preservation and storage of samples upon collection and during transport to the laboratory;
- Complete field and analytical laboratory sample COC procedures and documentation;
- Sample holding times within acceptable limits;
- Use of appropriate analytical procedures and NATA-accredited laboratories; and
- Required LOR (to allow for comparison with adopted IL);
- Frequency of conducting quality control measurements;
- Laboratory blanks;
- Field duplicates;
- Laboratory duplicates;
- Matrix spike/matrix spike duplicates (MS/MSDs);
- Surrogates (or System Monitoring Compounds);
- Analytical results for replicated samples, including field and laboratory duplicates and inter-laboratory duplicates, expressed as Relative Percentage Difference (RPD); and
- Checking for the occurrence of apparently unusual or anomalous results, e.g. laboratory results that appear to be inconsistent with field observations or measurements.

The findings of the data quality assessment in relation to the soil investigations at the site are discussed in detail in Appendix J. QA/QC policies and DQOs are presented in Appendix K.

On the basis of the analytical data validation procedure employed the overall quality of the soil analytical data produced for the site were considered to be of an acceptable standard for interpretive use.

7. RESULTS

7.1 SOIL INVESTIGATION RESULTS

7.1.1 Site Geology and Subsurface Conditions

The general site geology encountered during the drilling of the soil investigation boreholes, installation of monitoring wells may be described as a layer of anthropogenic filling overlying residual soils. The geological information obtained during the investigation is summarised in Table 7-1 to Table 7-3 and borehole logs from these works are presented in Appendix C.

Table 7-1 Generalised Subsurface Profile Site 1

Layer	Description	Depth to top & bottom of layer (m BGL)	
		Top	Bottom
-	CONCRETE	0	0.08
Fill	Sandy CLAY; low plasticity, with gravel, dark brown, gravel is angular, subangular, moist, no odour.	0.08	0.6
	Silty CLAY; low to medium plasticity, dark grey, moist, no odour.	0.08	0.8
Residual	Silty CLAY; low to medium plasticity, brown / dark grey	0.6 - 0.8	1.0 - 1.1

Notes: + Termination depth of borehole

Table 7-2 Generalised Subsurface Profile Site 2

Layer	Description	Depth to top & bottom of layer (m BGL)	
		Top	Bottom
-	CONCRETE	0	0.03 - 0.12
Fill	Silty SAND; fine grained, brown to light brown, moist no odour.	0.03 – 0.12	0.4 – 1.89
	Gravelly CLAY; low plasticity, brown mottled dark grey	0.4	1.0
	Silty Clay; low plasticity, dark brown, moist	0.5 – 1.0	1.3 - 1.89
Residual	Silty Clay medium to high plasticity brown mottled red moist	1.89	2.1
SHALE	Inferred distinctly weathered, grey / brown	0.12 - 2.1	6 - 16

Notes: + Termination depth of borehole

Table 7-3 Generalised Subsurface Profile Site 3

Layer	Description	Depth to top & bottom of layer (m BGL)	
		Top	Bottom
-	CONCRETE/ TOPSOIL	0	0.05 - 0.08
Fill	Gravelly SAND; fine to medium grained, dark brown to brown, no odour, trace of subangular to angular gravel, with rootlets present.	0.05 – 0.1	0.05 – 0.5
	Sandy CLAY low to medium plasticity, dark brown / dark grey with fine to medium grained sand and fine to medium gravel.	0.05 - 0.5	0.75 - 1.5
	Gravelly CLAY, low plasticity, dark grey / dark brown, with fine to medium grained sand	0.08	0.5
	Silty CLAY; low plasticity, dark grey / dark brown / red – brown, with fine to medium grained sand and fine to medium gravel.	0.5	1.5
Residual	Silty CLAY; medium to high plasticity, grey mottled red / brown, dark grey mottled red,	1.5 – 2.3	2.2 – 3.4
SHALE	Inferred extremely weathered, extremely low strength, red / brown / grey,	2.2 – 3.4	15.3 – 17+

Notes: + Termination depth of borehole

7.1.2 Field Observations and PID Results

Soil samples were obtained from the test bores at various depths ranging between 0.1 m to 3.4 m BGL. 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, charcoal) and the following observations were noted:

- Visual or olfactory evidence of hydrocarbon impacts were not noted at borehole locations investigated during this assessment. A strong hydrocarbon odour was detected on the sourrounding area of the above ground Diesel storage tank situated at the basement of the RSL entry via Regent Street;
- Some minor brick and plastic fragments were observed to be present in the fill material at test bore BH20, BH22 and BH24 sampling locations situated at Site 3;
- Potential asbestos containing material was not noted in examined fill soils; and
- Elevated VOC concentrations field-screened using a portable PID fitted with a 10.9 eV lamp were reported between 41.2 ppm and 80 pmm at BH16 and BH17 (basement Site 1), BH21 (adjacent to USTs at Site 3) and BH23 (parking at north eastern side of Site 3) . Readings from the other collected soil samples were reported between 0.0 ppm and 28 ppm. The PID results are shown in the borehole logs (Appendix F).

7.2 GROUNDWATER INVESTIGATION RESULTS

7.2.1 Monitoring Well Construction

Seven groundwater monitoring well was installed at BH1M, BH4M, BH6M, BH9M, BH10M, BH11M and BH15M upon completion of drilling at that location. Construction details are discussed in Table 7-4 whilst graphical representation of each monitoring well is shown in the borehole logs included as Appendix F.

Table 7-4 Monitoring Well Construction Details

Well ID	Site	Well Depth (mBGL)	Screen Interval (mBGL)	Lithology Screened
BH1M	3	13.9	7.9 - 13.9	Shale
BH4M	3	15.3	9.3 - 15.3	Shale
BH6M	3	9	6 - 9	Shale
BH9M	2	9	6 - 9	Shale
BH10M	2	6	3 - 6	Shale
BH11M	2	9	6 - 9	Shale
BH15M	3	12.4	6.4 – 12.4	Shale

Notes:
mBGL – Metres below ground level.

7.2.2 Field Observations and Water Test Results

A GME was conducted on 25 March 2016. Standing water levels (SWL) were measured within each groundwater monitoring wells prior to well purging. SWL, well purge volumes prior to sample collection, and field test results of groundwater quality parameters at each monitoring well location were recorded onto field data sheet. A summary of the recorded field data is presented in Table 7-5 with copies of completed field data sheets included in Appendix G.

Table 7-5 Groundwater Field Data

Well ID	SWL (mBTOC)	SWL (mAHD)	DO* (ppm)	Field pH	Field EC (µS/cm)	Temp (°C)	Redox (mV)	Odours / Turbidity
BH1M	1.8	31.2	2.79	6.82	549	22.88	336.9	No turbidity, no sheen no odour.
BH4M	3.7	30.8	3.28	6.21	627	24.48	349.3	No turbidity, no sheen no odour.

Well ID	SWL (mBTOC)	SWL (mAHD)	DO* (ppm)	Field pH	Field EC (µS/cm)	Temp (°C)	Redox (mV)	Odours / Turbidity
BH6M	3.2	33.3	4.10	5.51	1481	22.13	352.1	Light brown, low turbidity, no sheen, no odour.
BH9M	3.2	36.2	1.68	6.29	804	24.96	313.3	Dark brown, high turbidity, no sheen no odour.
BH10M	2.0	41	2.42	5.39	2004	23.30	287.5	Light brown, low turbidity, no sheen, no odour.
BH11M	4.0	39.5	2.87	6.33	641	23.15	323.6	Light yellow, low turbidity, no sheen, no odour.
BH15M	2.1	29.4	2.73	6.30	1169	22.67	365.6	No turbidity, no sheen no odour.

Notes:
SWL – Standing Water Levels reduced to metres above the Australian Height Datum. WLs were calculated as WL = Reduce Ground Level – (SWL + Stickup).
DO – Dissolved Oxygen in units of parts per million.
EC – Groundwater electrical conductivity as measured onsite using portable EC meter.
µS/cm – Micro Siemens per centimetre (EC units).
Redox – Oxidation and reduction potential. Redox has been adjusted relative to standard hydrogen electrode (by adding 205 mV to field reading, as advised by the test equipment manufacturer). Refer to Appendix G for field redox readings pre-adjustment.
mV – Millivolts.
All groundwater parameters (pH, Redox, EC and DO) were tested on site.

The field pH data indicated that the groundwater pH between slightly acidic and neutral. Using a conversation factor of 0.64 the average Electrical Conductivity (EC) measurements indicated that in terms of potable quality groundwater is fair, and in terms of water salinity groundwater is brackish. (NHMRC, NRMMC 2011). Redox measurement was reported at 288 to 367 mV, suggesting groundwater encountered in the GME was an oxidising environment.

7.3 Laboratory Analytical Results

7.3.1 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 7-6. 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 H and all laboratory analytical reports for tested soil samples are presented in Appendix I.

Table 7-6 Summary of Soil Analytical Results

No. of Primary Samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample Locations Exceeding Investigation Levels *
Heavy Metals				
33	Arsenic	<3	18	None
33	Cadmium	<0.3	1.3	None
33	Chromium (Total)	0.7	39	None
33	Copper	0.7	180	None
33	Lead	1	830	None
33	Nickel	<0.5	41	Samples exceeding EILs: BH9M_0.2-0.4 (41 mg/kg) (Site 3)
33	Zinc	<0.5	690	Samples exceeding EILs: BH11M_0.1-0.2 (260 mg/kg) (Site 2), BH12_0.2-0.4 (440 mg/kg) (Site 2)
33	Mercury	<0.01	0.59	None
TRHs (including BTEX)				
33	TRH C_6-C_{10} minus BTEX (F1)	<25	120	None
33	TRH >C_{10}-C_{16} (F2) minus Naphthalene	<25	120	None
33	TRH >C_{16}-C_{34} (F3)	<90	3000	None
33	TRH >C_{34}-C_{40} (F4)	<120	650	None
33	Benzene	<0.1	<0.1	None
33	Toluene	<0.1	<0.1	None
33	Ethylbenzene	<0.1	<0.1	None
33	Total Xylenes	<0.3	<0.3	None
PAHs				
33	Benzo(a)pyrene	<0.1	40	Samples exceeding ESLs: BH11M_0.1-0.2 (1.9 mg/kg) (Site 2), BH12_0.2-0.4(7.5 mg/kg) (Site 2) and BH25 0.3-0.4 (2.4 mg/kg) (Site 2)
33	Carcinogenic PAHs	<0.3	110	Samples exceeding HIL B: BH15M_0.2-0.4 (58 mg/kg) (Site 3), BH3_0.2-0.4 (110 mg/kg) (Site 3), BH3_0.8-1.0 (10 mg/kg) (Site 3), BH12_0.2-0.4 (11 mg/kg) (Site

No. of Primary Samples	Analyte	Min. Conc. (mg/kg)	Max. Conc. (mg/kg)	Sample Locations Exceeding Investigation Levels *
				2)
33	Naphthalene	<0.1	7.1	Samples exceeding HIL B: BH3_0.2-0.4 (7.1 mg/kg) (Site 3)
33	Total PAHs	<0.8	1200	Samples exceeding HIL B: BH15M_0.2-0.4 (470 mg/kg) (Site 3), BH3_0.2-0.4 (1200 mg/kg) (Site 3)
Asbestos				
33	Asbestos	ND	ND	Asbestos detected at BH3_0.2-0.4 (<0.01%) (Site 3)
OCPs				
17	Total OCPs	ND	ND	None
OPPs				
17	Total OPPs	ND	ND	None
PCBs				
17	Total PCBs	ND	ND	None

7.3.2 Groundwater Analytical Results

A summary of laboratory results showing test sample quantities and samples found to exceed the GILs, is presented in Table 7-7. Laboratory analytical results for groundwater samples are summarised in Tables T4, which also include the adopted GILs. Completed documentation used to track groundwater sample movements and laboratory receipt (COC and SRA forms) are copied in Appendix H. Copies of the laboratory analytical reports are attached in Appendix I.

Table 7-7 Summary of Groundwater Analytical Results

No. of primary samples	Analyte	Min. Conc. (µg/L)	Max. Conc. (µg/L)	Sample location exceeding GIL and reported concentration
Heavy Metal				
7	Arsenic	<1	3	None
7	Cadmium	<0.1	0.5	None
7	Chromium (Total)	<1	<1	None
7	Copper	<1	5	Samples exceeding GILs: BH1M (3 ug/L) (Site 3), BH4M (5 ug/L) (Site 3), BH6M(2 ug/L) (Site 3), BH11M (4 ug/L) (Site 2), BH15m(2 ug/L) (Site 3).
7	Lead	<1	<1	None
7	Mercury	<0.0001	<0.0001	None

No. of primary samples	Analyte	Min. Conc. (µg/L)	Max. Conc. (µg/L)	Sample location exceeding GIL and reported concentration
7	Nickel	2	13	Samples exceeding GILs: BH1M (9 ug/L) (Site 3), BH6M (13 ug/L) (Site 3), BH11M (9 ug/L) (Site 2).
7	Zinc	12	330	Samples exceeding GILs: BH1M (230 ug/L) (Site 3), BH4M (190 ug/L) (Site 3), BH6M (68 ug/L) (Site 3), BH9M (12ug/L) (Site 2), BH10M (12 ug/L) (Site 2), BH11M (35 ug/L) (Site 2), BH15M (330 ug/L) (Site 3).
Hydrocarbons				
7	F1 TRH (C_6-C_{10} minus BTEX)	<50	150	Samples exceeding GILs: BH10M (150 ug/L) (Site 2),
7	F2 TRH (>C_{10}-C_{16} minus naphthalene)	<60	140	Samples exceeding GILs: BH9M (140 ug/L) (Site 2) and BH10M (110 ug/L) (Site 2)
7	F3 TRH (>C_{16}-C_{34})	<500	<500	None
7	F4 TRH (>$_{34}$-C_{40})	<500	<500	None
7	Benzene	<0.5	<0.5	None
7	Toluene	<0.5	<0.5	None
7	Ethyl benzene	<0.5	<0.5	None
7	Xylenes	<1.5	5.5	None
7	Naphthalene	<0.5	<0.5	None
VOCs				
7	Cloroform	<0.5	42	Samples exceeding Region 9 SSLs: BH1M (42 ug/L) (Site 3) and BH15M (29 ug/L) (Site 3)
7	Other VOCs	<0.5	8.5	None

[1] Zinc value derived form duplicate sample GWQD1.

8. SITE CHARACTERISATION

8.1 SOIL

HEAVY METALS

Analytical results for heavy metals in excess of the adopted health-based criterion (HIL-B) were not reported in any of the tested samples.

Elevated concentration of nickel in excess of the EILs of 35 mg/kg was reported in location BH9M_0.2-0.3 (41 mg/kg), and of Zinc in excess of the EILs of 255 mg/kg in sample locations BH11M_0.1-0.2 (260 mg/kg) and BH12_0.2-0.4 (440 mg/kg). On review of development plans for the site, deep soils area will be retained and utilised for landscaping purposes. vertical and horizontal delineation of contamination requires verification.

TOTAL PAHS IN SOIL

Elevated concentration of total PAHs in excess of the adopted health-based criterion (HIL-B) of 470 mg/kg were reported in samples BH15M_0.2-0.4 (470 mg/kg) to the east of the identified USTs and BH3_0.2-0.4 (1200 mg/kg) situated at the south western boundary of the carpark at Site 3. Results of the tested natural material underlying total PAHs impacted soils at these locations were reported below the adopted criteria indicating that PAHs contamination had not leached to the natural material.

CARCINOGENIC PAHS IN SOIL

Elevated concentration of Carcinogenic PAHs in excess of the adopted health-based criterion (HIL-B) of 4 mg/kg were reported in samples BH15M_0.2-0.4 (58 mg/kg), BH3_0.2-0.4 (110 mg/kg), BH3_0.8-1.0 (10 mg/kg), BH12_0.2-0.4 (11 mg/kg). As discussed above BH15 is situated in close proximity to the identified USTs and BH3 on the south western boundary of the carpark of Site 3. BH12 is situated at the north eastern boundary of the carpark at site 2.

Results of the tested natural material underlying carcinogenic PAHs impacted soils at location BH15M_1.8-2 (58 mg/kg). And BH12_1.3-1.5 (11 mg/kg) were reported below the adopted criteria indicating that Carcinogenic PAHs had not leached to the natural material at these locations.

NAPHTHALENE

Elevated concentration of Naphthalene in excess of the adopted health-based criterion (HIL-B) of 5 mg/kg was reported in sample BH3_0.2-0.4 (7.1 mg/kg) . Results of the tested natural material underlying naphthalene impacted soils at this location was reported below the adopted criteria indicating that naphthalene had not leached to the natural material.

BENZO(A)PYRENE

Elevated concentration of benzo(a)pyrene in excess of the ESL of 0.7 mg/kg was reported in sampling locations BH11M_0.1-0.2 (1.9 mg/kg), BH12 0.2-0.4 (7.5 mg/kg) and BH25 0.3-0.4 (2.4 mg/kg).

ASBESTOS RISKS

Asbestos was identified in laboratory examined fill soil sample BH3_0.2-0.4 collected during the field investigation at a concentration less than 0.01%. Asbestos was not identified in any of the other collected samples. As this DSI findings have showed no evidence of significant asbestos contamination, at Site 2 and and Site 3, an Unexpected Finds Protocol is considered relevant to detail an approach and methodology for the management of any unexpected asbestos contaminated soils encountered during demolition and construction works. Further asbestos testing is required for Site 1 following demolition of site structures.

8.2 GROUNDWATER CHARACTERISATION

Groundwater results reported concentration below the detection limit for PAHs and BTEX. The majority of the heavy metals were screened below the adopted criteria with the exception of zinc in all sampling locations, nickel for sampling locations BH1M and BH6M (Site 3) and BH 11 M (Site 2) and Copper in BH1M, BH4M, BH6M (Site 3), BH11M (Site 2) and BH15M (Site 3).

TRH concentrations were reported either below or slightly above LOR, expect F1 TRH and F2 TRH at sampling location BH10M and F2 TRH at sampling location BH9M situated at Site 2 which occur at concentrations exceeding the adopted GIL.

Background groundwater quality entering site 2, as inferred from monitoring well BH10M and BH11M is characterised by concentrations of TRH F1 and TRH F2 at BH10M. Concentrations of and TRH F2 were reported as well at the downgradient well BH9M situated at the north western side of the carpark.

Background groundwater quality entering site 3, as inferred from monitoring well BH6M is characterised by concentrations of copper, nickel and zinc above the GILs. Concentrations of copper, nickel and zinc above the GILs were reported in BH1M and BH15M inferred to be down-gradient.

A low concentration of chloroform was recorded in BH1M (Site 3) likely to be associated with leaking reticulated water supply infrastructure.

We note that elevated heavy metal concentrations are comparable to those present in background groundwater entering the sites, and are inferred to be representative of the regional groundwater quality. Current available data at the time of report preparation suggested groundwater flow direction to be towards the north-west see inferred contours in Figure 3. Standing water levels at the site were measured between approximately 1.8 m to 4 mBGL during the DSI. The main aquifer encountered in this DSI was located within fractured Ashfield Shale, the top of which was estimated at between 4.5 mBGL to 6 mBGL. The aquifer was considered to be a semiconfined to confined aquifer. Groundwater flow through the Ashfield Shale is documented to be influenced by the bedrock fracture system with hydraulic conductivities estimated to range between 8.6 x10-9 and 1.7x10-4 m/day (Domenico and Schwartz, 1990).

Due to onsite restrictions monitoring wells at Site 1 could not be installed therefore, the water quality has not been assessed.

8.3 UPDATED CONCEPTUAL SITE MODEL

On the basis of investigation findings the preliminary CSM discussed in Section 4 was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential onsite and offsite receptors. Previously known data gaps, as outlined in Section 4.6 have largely been addressed; however, the following remaining data gaps need to be addressed in subsequent investigation works:

- The quality of site soils beneath the RSL structures (Site 1), requires further investigation. It is recommended that sampling in this area is performed following demolition of site structures and following the decommissioning of the known above ground Diesel storage tank, to minimise the potential for further contamination from this primary source.
- Delineation of the vertical and horizontal extent of zinc, carcinogenic PAHs, and benzo(a)pyrene soils, at Site 2, requires confirmation.
- The spatial extent of asbestos contamination in fill soils for Site 1 requires verification;
- Asbestos was identified in laboratory examined fill soil sample BH3_0.2-0.4 collected during the field investigation at a concentration less than 0.01%. Asbestos was not identified in any of the other collected samples. As this DSI findings have showed no evidence of significant asbestos contamination, at Site 2 and and Site 3, an Unexpected Finds Protocol is considered relevant to detail an approach and methodology for the management of any unexpected asbestos contaminated soils encountered during demolition and construction works. Further asbestos testing is required for Site 1 following demolition of site structures.
- Due to onsite restrictions monitoring wells at Site 1 could not be installed therefore, it is recommended further groundwater investigation be undertaken, including installation of an up-gradient well at Site 1 to provide data on groundwater quality. These works should be performed following demolition of site structures to allow drill rig access and following the decommissioning of the known above ground Diesel storage tank, to minimise the potential for further contamination from this primary source;
- One additional GME to be performed for all wells at site 2 and site 3 and newly installed wells at Site 1 after demolition of site structures, and decommissioning of the known underground and above ground storage tanks, to minimise the potential for further contamination from this primary source; and
- Potential presence of hazardous materials present within the existing structures requires verification.

ASBESTOS RISK

No asbestos was reported in fill or deeper soil from intrusive sampling at the two locations at Site 1 and the six locations at Site 2. Non respirable asbestos was reported in fill soils at one location (BH3_0.2-0.4) at Site 3 during assessment by intrusive sampling. No asbestos was reported in any other fill or deeper soil sampling locations at Site 3.

Due to access restictions further sampling is recommended to characterise contamination in soils at Site 1 after demolition of Site Structures, should asbestos contamination be identified, delineation of the vertical and horizontal extent of asbestos contamination if any will require confirmation.

As this DSI findings have showed no evidence of significant asbestos contamination, at Site 2 and and Site 3, an Unexpected Finds Protocol is considered relevant to detail an approach and methodology for the management of any unexpected asbestos contaminated soils encountered during demolition and construction works. Further asbestos testing is required for Site 1 following demolition of site structures.

HEAVY METALS

Results of soil samples collected at BH9M, BH11 and BH12 (Site 2) indicated concentrations of heavy metals (nickel and zinc) in excess of the adopted EILs. On review of development plans for the site, deep soils area will be retained and utilised for landscaping purposes. Vertical and horizontal delineation of contamination following stripping of the asphalt hardstand is required to determine the risk associated with Heavy Metals.

RESIDUAL PETROLEUM HYDROCARBONS

As described in Section 2, two underground tank areas were identified within Site 3 and one above Diesel storage tank within Site 1:

- one tank filling point was identified at 305-309 Trafalgar Street, Petersham (Site 3) within the northern part of the building, adjacent to the loading dock entry via Trafalgar Street. The area was scanned with Ground-Penetrating Radar (GPR) and the location of one large or two medium sized USTs was confirmed, with an estimated tank size of 3 m x 2.5 m each.
- an above ground storage Diesel tank and associated infrastructure was situated on the southern side of the basement at 3-7 Regent Street (Site 1).

Assessment of these UST Areas has included the following:

- Intrusive assessment 17 March 2016 at locations BH16 and BH17 situated in proximity to the tank did not report significant TRH impact in soil;
- Instrusive assessment 17 March 2016 at locations BH20 and BH21 did not report significant TRH impact in soil;
- Instrusive assessment 4 March 2016 at location BH15M did not report significant TRH impact in soil;
    - BH16: Maximum reported PID was 68 ppm (at 0.5 mbgl). No significant TRH or BTEX impact reported to a depth of 3.5mbgl.
    - BH17: Maximum reported PID was 54 ppm (at 0.6 mbgl), with No significant TRH or BTEX impact reported to a depth of 0.6mbgl.
    - BH20: Maximum reported PID was 20.1 ppm (at 1.5 mbgl), with No significant TRH or BTEX impact reported to a depth of 1.5mbgl.
    - BH21: Maximum reported PID was 55 ppm (at 1.5 mbgl), with No significant TRH or BTEX impact reported to a depth of 1.5mbgl.
    - BH15M: Maximum reported PID was 1.5 ppm (at 1.5 mbgl), with No significant TRH or BTEX impact reported to a depth of 1.5mbgl.

In order to determine the risk associated with TRHs contamination further soil sampling sampling of UST pits following decommissioning of USTs at Site 3 and decommissioning of above ground Diesel tank at Site 1 requires verification.

TRH concentrations reported in groundwater were either below or slightly above LOR, expect F1 TRH (150 µg/L) and F2 TRH (110 ug/L) at sampling location BH10M and F2 TRH (140 µg/L) at sampling location BH9M situated at Site 2 which occur at concentrations exceeding the adopted GIL.

Background groundwater quality entering site 2, as inferred from monitoring well BH10M characterised by concentrations of TRH F1 and TRH F2. Concentrations of TRH F2 were reported at the downgradient well BH9M situated at the north western side of the carpark indicating a potential source of offsite contamination. An additional GME after stripping of asphalt hardstand is necessary to minimise the potential for contamination from this source in order to determine the risk associated with TRHs.

TOTAL PAHS IN SOIL

Results of soil samples collected at BH15M and BH3 (Site 3) indicated concentrations of PAHs in excess of the adopted HILB criteria. Results of the tested natural material underlying total PAHs impacted soils at these locations were reported below the adopted criteria indicating that PAHs had not leached to the natural material. Given that soils from these parts of the site will be excavated and removed for offsite disposal to licensed landfill facilities, this concentration was not considered to pose any threat to human receptors, provided appropriate waste management measures are implemented during the basement excavation process.

CARCINOGENIC PAHS IN SOIL

Fill within sampling locations at BH15M and BH3 at Site 3 and BH12 at Site 2 was reported to be impacted with carcinogenic PAHs at concentrations that exceeded the health based investigation level (HIL-B) of 4mg/kg. The concentrations range was 58mg/kg to 110mg/kg for Site 3 and of 11 for Site 2. Following observations were made;

- Results of the tested natural material underlying carcinogenic PAHs impacted soils at location BH15M and BH3 at Site 3 and BH12 at Site 2 were reported below the adopted criteria indicating that Carcinogenic PAHs had not leached to the natural material at these locations.
- Observations during field inspection and intrusive sampling did not report any occurrence of phase-separated material, coal tar, or significantly odorous soil (tar-like) and there was no history of use of the site as a gas works.
- The vegetative cover (grass) across Site 3 and Site 2 was observed to be well established, in good condition with no evidence of die off, worn areas or exposed soil. Trees (Fig Trees, Deciduous Trees) appeared in good condition with no evidence of stress. The base of trees was covered with garden mulch.

In order to determine the risk associated with PAHs contamination horizontal delineation at BH15M after demolition of site structures, horizontal delineation at BH3 and BH12 following stripping of asphalt hardstand cover requires verification.

NAPHTHALENE

Elevated concentration of Naphthalene in excess of the adopted health-based criterion (HIL-B) of 5 mg/kg was reported in sample BH3_0.2-0.4 (7.1 mg/kg).

Given that soils from these parts of the site will be excavated and removed for offsite disposal to licensed landfill facilities, this concentration was not considered to pose any threat to human receptors, provided appropriate waste management measures are implemented during the basement excavation process.

BENZO (A) PYRENE

Elevated concentration of benzo(a)pyrene in excess of the ESL was reported in sampling locations BH11, BH12 and BH25. On review of development plans for the site, deep soils area will be retained and utilised for landscaping purposes at this location. In order to determine the risk associated with PAHs contamination vertical and horizontal delineation of contamination following stripping of the asphalt hardstand requires verification

9. CONCLUSIONS

The property located at 3-7 Regent Street, 13-17 Regent Street and 287-309 Trafalgar Street, Petersham, NSW was the subject of a Detailed site Investigation Report in order to assess the potential for on-site contamination associated with the identified current and former land uses. Based on the findings of this assessment it was concluded that:

- It is understood that the sites are situated on the southern side of Petersham Rail Corridor, covering an area of approximately 9,800 m^2. At the time of this DSI Site 1 was occupied by Petersham RSL Club covering the entire footprint of the site, Site 2 by a 1,936 m^2 car park bound by Regent Street west and New Canterbury Road south and Site 3 by three vacant warehouse structures and two car parks situated on the easten side of the site bound by Trafalgar Street north and Regent street east. The site layout is presented in Figure 2.
- Review of historical records suggested the following:
  - Use of Site 1 was primarily residential until the 1960s when it was redeveloped for commercial uses as Petersham RSL. The building structure appeared to have undergone multiple refurbishment works and additions throughout the years.
  - Use of Site 2 was primarily residential until the 1970s when residential structures on site were demolished for the construction of an open car park.
  - Lot 10 of Site 3 was mainly residential until the 1960s when it was redeveloped for commercial use and then as an open carpark. Lot 1 of Site 3 has remained commercial / industrial since the 1930's. Mc Callum Holdings Pty Ltd – Sintered Alloys Pty Ltd appear to have occupied part of the site (305-309 Trafalgar Street) since the 1950's until 2015 a company specialised in the use of granulated metals of iron, steel, stainless steel, brass, bronze and copper for the manufacture of metal miscellaneous metal products such as hardware. Nature of the historical commercial / industrial activities on site 3 appeared to be limited to wood, coal, lime, cement and home appliances commercial activities and furniture and ball and roller bearing manufacture.
- The Dangerous Goods Licensing Section did not identify any records relating dangerous good storage or underground tanks at the site.
- The site is free of statutory notices issued by the NSW EPA, and were not identified on the lisst of nominated contaminated sites, or the POEO public register. One property within 1 km was identified on the registers, but not considered potential off-site contamination sources;
- Site walkover inspection identified the presence of an underground petroleum storage system (UPSS) at Site 3 (305-309 Trafalgar Street, Petersham). One tank filling point was identified within the northern part of the building, adjacent to the loading dock entry via Trafalgar Street. The area was scanned with Ground-Penetrating Radar (GPR) and the location of one large or two medium sized USTs was confirmed with an estimated tank size of 3 m x 2.5 m each. An above ground Diesel storage Tank and associated infrastructure was identified at Site 1 on the southern side of the RSL basement car park.

- Soil investigation works included drilling of 21 boreholes. 2 boreholes were drilled at Site 1 (BH16 and BH17) 6 boreholes were drilled at Site 2 (BH9, BH10, BH11, BH12, BH25 and BH27) and 13 boreholes were drilled at Site 3 (BH1 to BH4, BH6, BH7, BH15, BH18, BH20 to BH24).
- The general site geology encountered during the soil investigation is described as a layer of anthropogenic filling in depths raging from 0.03 mBGL to 1.89 mBGL overlying clayey soils in depths raging from 0.6 mBGL to 3.4 and shale at depths raging from 2.2 mBGL to 17+mBGL.
- Laboratory analytical results of tested soil samples were assessed against the health-based investigation level for residential sites with minimalminimal access to soil (HIL-B) and Ecological Investigation Levels (EILs) based on the proposed site configuration. The analytical results suggested the following:
  - Elevated concentration of nickel in excess of the EILs of 35 mg/kg was reported in location BH9M_0.2-0.3 (41 mg/kg), and of Zinc in excess of the EILs of 255 mg/kg in sample locations BH11M_0.1-0.2 (260 mg/kg) and BH12_0.2-0.4 (440 mg/kg).
  - Results of soil samples collected at BH15M and BH3 (Site 3) indicated concentrations of PAHs in excess of the adopted HILB criteria. Results of the tested natural material underlying total PAHs impacted soils at these locations were reported below the adopted criteria indicating that PAHs had not leached to the natural material. Given that soils from these parts of the site will be excavated and removed for offsite disposal to licensed landfill facilities, this concentration was not considered to pose any threat to human receptors, provided appropriate waste management measures are implemented during the basement excavation process;
  - Elevated concentration of Naphthalene in excess of the adopted health-based criterion (HIL-B) of 5 mg/kg was reported in sample BH3_0.2-0.4 (7.1 mg/kg). Results of the tested natural material underlying naphthalene impacted soils at this location was reported below the adopted criteria indicating that Naphthalene had not leached to the natural material. Elevated concentration of Naphthalene in excess of the adopted health-based criterion (HIL-B) of 5 mg/kg was reported in sample BH3_0.2-0.4 (7.1 mg/kg). Given that soils from these parts of the site will be excavated and removed for offsite disposal to licensed landfill facilities, this concentration was not considered to pose any threat to human receptors, provided appropriate waste management measures are implemented during the basement excavation process.
  - Elevated concentration of benzo(a)pyrene in excess of the ESL of 0.7 mg/kg was reported in sampling locations BH11M_0.1-0.2 (1.9 mg/kg), BH12 0.2-0.4 (7.5 mg/kg) and BH25 0.3-0.4 (2.4 mg/kg). On review of development plans for the site, deep soils area will be retained and utilised for landscaping purposes at this location. In order to determine the risk associated with benzo(a)pyrene contamination vertical and horizontal delineation of contamination following stripping of the asphalt hardstand requires verification.
  - Asbestos was identified in laboratory examined fill soil sample BH3_0.2-0.4 collected during the field investigation at a concentration less than 0.01%. Asbestos was not identified in any of the other collected samples. As this DSI findings have showed no evidence of significant asbestos contamination, at Site 2 and and Site 3, an Unexpected Finds Protocol is considered relevant to detail an approach and methodology for the management of any unexpected asbestos contaminated soils encountered during

demolition and construction works. Further asbestos testing is required for Site 1 following demolition of site structures.

- Groundwater investigation conducted indicated the following:
  - Groundwater results reported concentration below the detection limit for PAHs and BTEX. The majority of the heavy metals were screened below the adopted criteria with the exception of zinc in all sampling locations, nickel for sampling locations BH1M (9 ug/L), BH6M (13 ug/L) and BH 11 M (9 ug/L) and Copper in BH1M (3 ug/L), BH4M (5 ug/L), BH6M (2 ug/L), BH11M (4 ug/L) and BH15M (2 ug/L).
  - TRH concentrations were reported either below or slightly above LOR, expect F1 TRH (150 µg/L) and F2 TRH (110 ug/L) at sampling location BH10M and F2 TRH (140 µg/L) at sampling location BH9M which occur at concentrations exceeding the adopted GIL.
  - Background groundwater quality entering site 2, as inferred from monitoring well BH10M and BH11M is characterised by concentrations of TRH F1 and TRH F2 at BH10M. Concentrations of TRH F2 were reported as well at the downgradient well BH9M situated at the north western side of the carpark.
  - Background groundwater quality entering site 3, as inferred from monitoring well BH6M is characterised by concentrations of copper, nickel and zinc above the GILs. Concentrations of copper, nickel and zinc above the GILs were reported in BH1M and BH15M inferred to be down-gradient.
  - A low concentration of chloroform was recorded in BH1M (Site 3) likely to be associated with leaking reticulated water supply infrastructure.
  - We note that elevated heavy metal concentrations are comparable to those present in background groundwater entering the sites, and are inferred to be representative of the regional groundwater quality. Current available data at the time of report preparation suggested groundwater flow direction to be towards the north-west see inferred contours in Figure 3. Standing water levels at the site were measured between approximately 1.8 m to 4 mBGL during the DSI. The main aquifer encountered in this DSI was located within fractured Ashfield Shale, the top of which was estimated at between 4.5 mBGL to 6 mBGL. The aquifer was considered to be a semiconfined to confined aquifer.
  - Due to onsite restrictions monitoring wells at Site 1 could not be installed therefore, the water quality has not been assessed.
- The following data gaps identified in this DSI will require closure by further investigations:
  - The quality of site soils beneath the RSL structures (Site 1), requires further investigation. It is recommended that sampling in this area is performed following demolition of site structures and following the decommissioning of the known above ground Diesel storage tank, to minimise the potential for further contamination from this primary source.
  - Delineation of the vertical and horizontal extent of zinc, carcinogenic PAHs, and benzo(a)pyrene soils, at Site 2, requires confirmation.

- Due to onsite restrictions monitoring wells at Site 1 could not be installed therefore, it is recommended further groundwater investigation be undertaken, including installation of an up-gradient well at Site 1 to provide data on groundwater quality. These works should be performed following demolition of site structures to allow drill rig access and following the decommissioning of the known above ground Diesel storage tank, to minimise the potential for further contamination from this primary source;
- One additional GME to be performed for all wells at site 2 and site 3 and newly installed wells at Site 1 after demolition of site structures, and decommissioning of the known underground and above ground storage tanks, to minimise the potential for further contamination from this primary source; and
- Potential presence of hazardous materials present within the existing structures requires verification.

Based on the findings of this report and with consideration of the Statement of Limitations (Section 11), EI concludes that widespread contamination was not identified at the sites. Concentrations exceeding human health based SILs were identified within hotspots at the northern and south eastern areas of Site 3 and northern and southern boundaries of Site 2. In view of the proposed development, and currently available information, EI consider that the contamination identified can be remediated following demolition of the buildings and in accordance with recommendations detailed in Section 10 to address the contamination hotspots, remaining USTs and any unknown or unexpected contamination identified during the demolition and construction process to render the site suitable for proposed mixed commercial - residential use.

10. RECOMMENDATIONS

Based on the findings of this investigation, the following recommendations are provided to outline the additional works required to render the site suitable for its proposed residential use:

Based on the findings of this investigation, the following recommendations are provided:

- 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;
- 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 contamination identified during this DSI 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 or re-used (on-site or off-ste) during the proposed remediation works and 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 need to be conducted after site demolition when access is made available.

11. 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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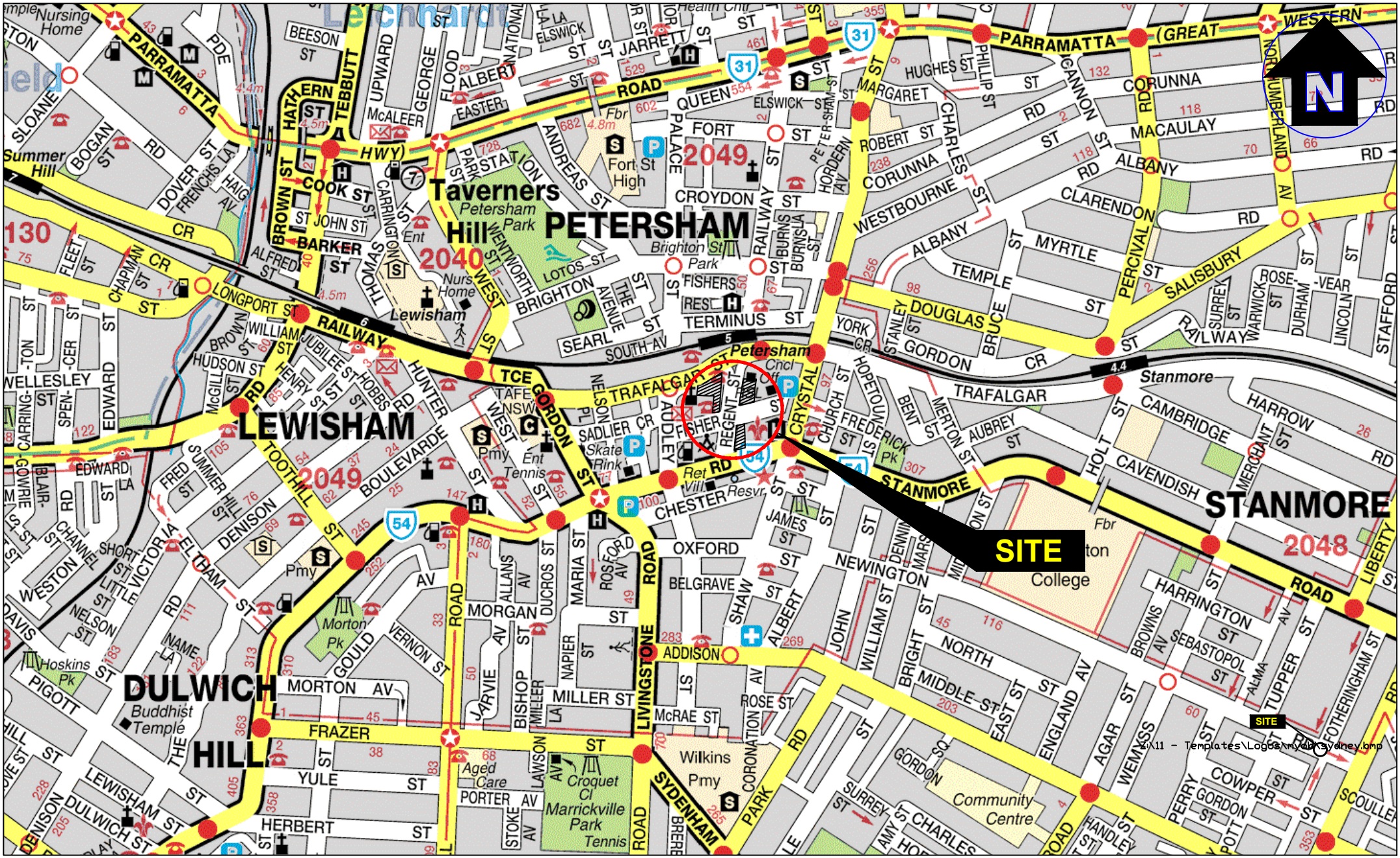
ABBREVIATIONS

ACM	Asbestos-containing materials
ASS	Acid sulfate soils
B(a)P	Benzo(a)pyrene (a PAH compound)
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CEC	Cation Exchange Capacity
COC	Chain of Custody
CSM	Conceptual Site Model
DA	Development Application
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)
DNAPL	Dense, non-aqueous phase liquid
DP	Deposited Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EIL	Ecological Investigation Levels
EPA	Environment Protection Authority
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
HSL	Health-based Screening Level
km	Kilometres
LNAPL	Light, non-aqueous phase liquid (also referred to as PSH)
m	Metres
MAH	Monocyclic Aromatic Hydrocarbons
m AHD	Metres Australian Height Datum
m BGL	Metres Below Ground Level
mg/L	Milligrams per litre
µg/L	Micrograms per litre
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	Nation Environmental Protection Measure
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage, NSW (formerly DEC, DECC, DECCW)
OPP	Organophosphorous 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)
PSH	Phase-separated hydrocarbons (also referred to as LNAPL)
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
QRA	Qualitative Risk Assessment
RAP	Remediation Action Plan
SRA	Sample receipt advice (document confirming laboratory receipt of samples)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
UCL	Upper Confidence Limit of the mean
US EPA	United States Environmental Protection Agency
UPSS	Underground Petroleum Storage System
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds (specific organic compounds which are volatile)
VOCCs	Volatile Organic Chlorinated Compounds (a sub-set of the VOC analysis suite)

FIGURES



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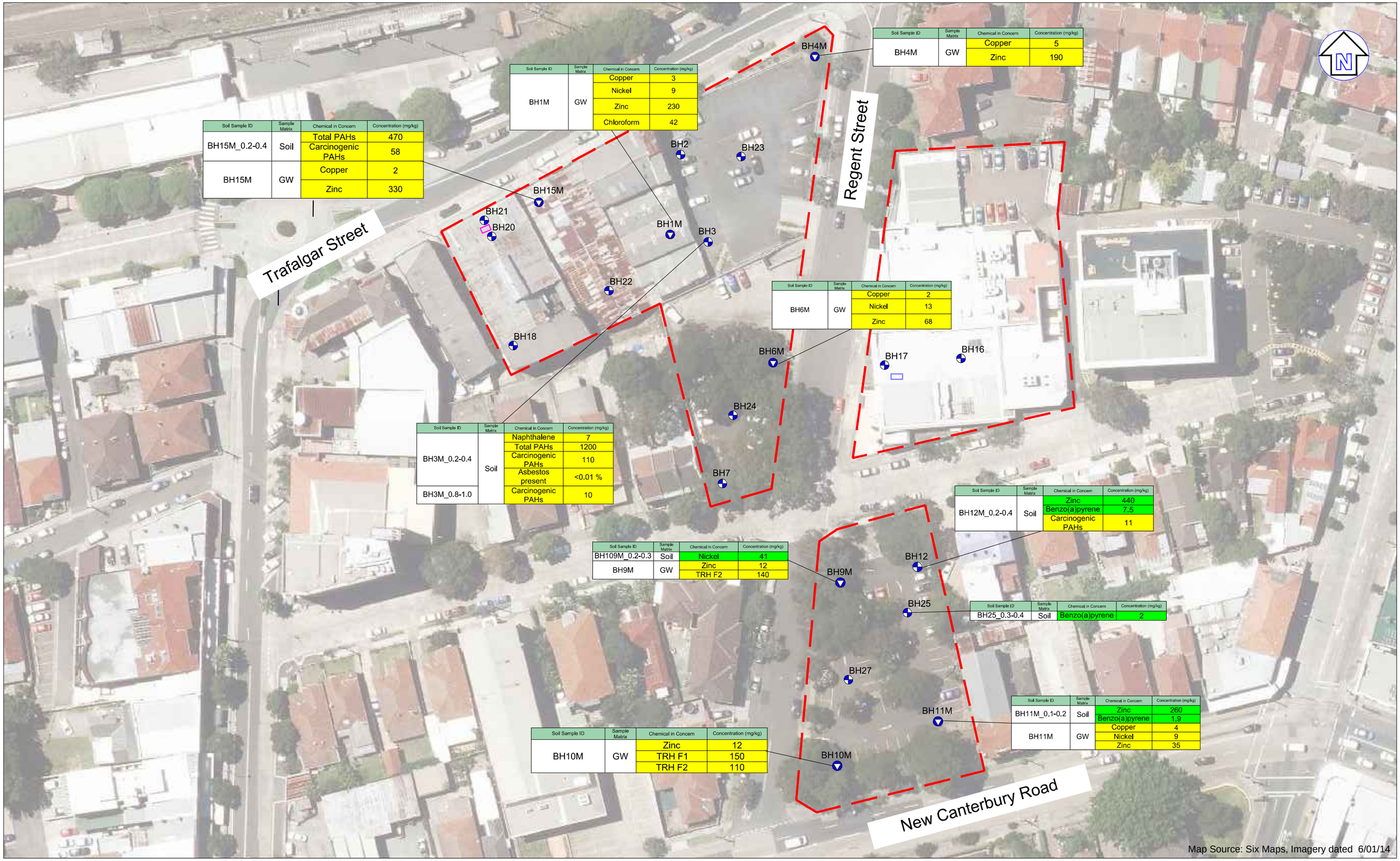
	Approved:	N.F.	
	Date:	26-04-16	
	Approx Scale:	N.T.S.	

Figure: 1

Project: E22913 AA



Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH1M	GW	Copper	3
		Nickel	9
		Zinc	230
		Chloroform	42

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH4M	GW	Copper	5
		Zinc	190

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH15M_0.2-0.4	Soil	Total PAHs	470
		Carcinogenic PAHs	58
BH15M	GW	Copper	2
		Zinc	330

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH6M	GW	Copper	2
		Nickel	13
		Zinc	68

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH3M_0.2-0.4	Soil	Naphthalene	7
		Total PAHs	1200
		Carcinogenic PAHs	110
		Asbestos present	<0.01 %
BH3M_0.8-1.0		Carcinogenic PAHs	10

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH12M_0.2-0.4	Soil	Zinc	440
		Benzo(a)pyrene	7.5
		Carcinogenic PAHs	11

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH109M_0.2-0.3	Soil	Nickel	41
BH9M	GW	Zinc	12
		TRH F2	140

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH25_0.3-0.4	Soil	Benzo(a)pyrene	2

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH10M	GW	Zinc	12
		TRH F1	150
		TRH F2	110

Soil Sample ID	Sample Matrix	Chemical in Concern	Concentration (mg/kg)
BH11M_0.1-0.2	Soil	Zinc	260
		Benzo(a)pyrene	1.9
BH11M	GW	Copper	4
		Nickel	9
		Zinc	35

LEGEND

- Approximate site boundary
- Sampling locations
- Groundwater monitoring well locations
- Approximate location of USTs
- Approximate location of Diesel tank

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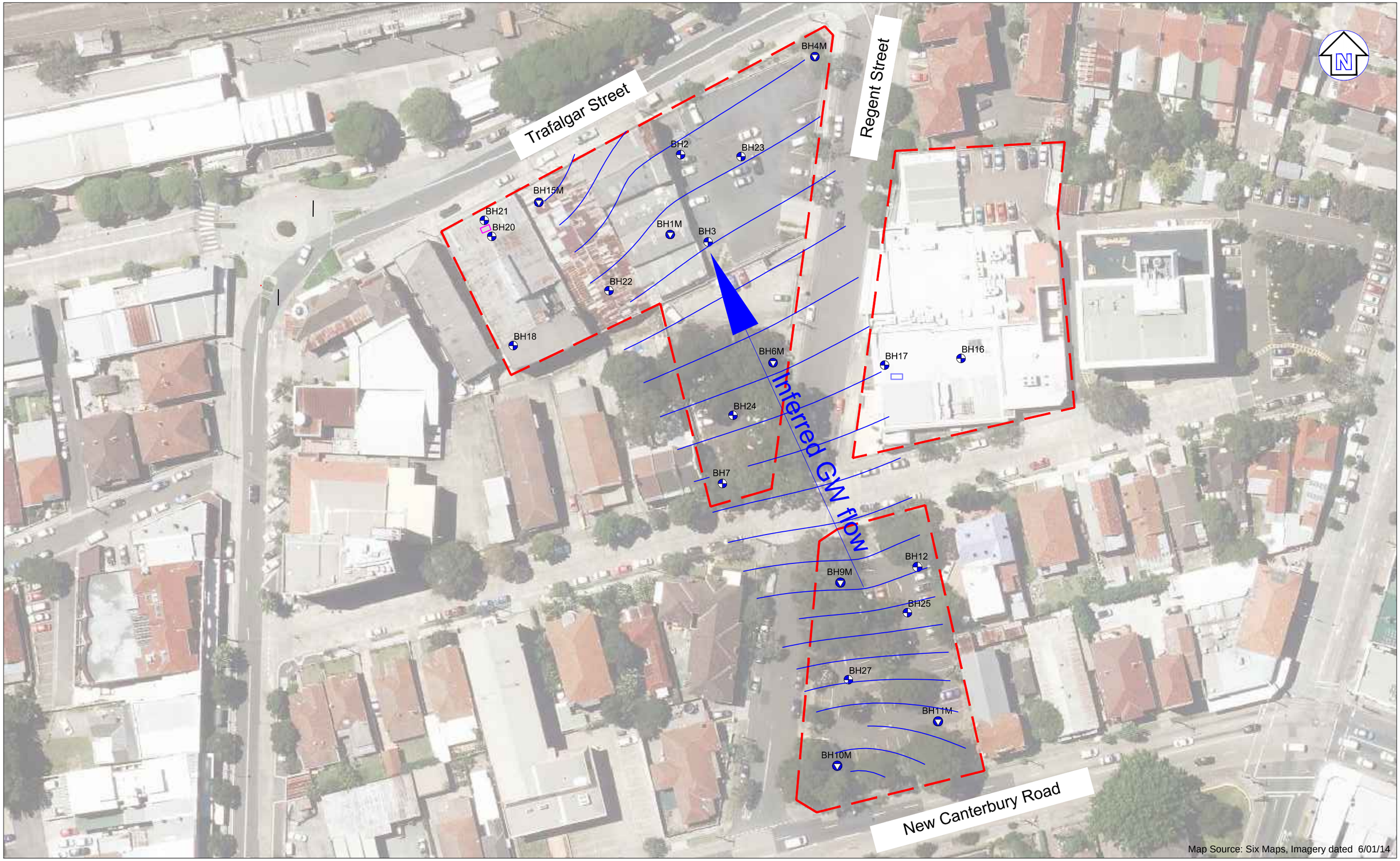
3-7 & 13-17 Regent Street and
287-309 Trafalgar Street, Petersham NSW

Sampling Location Plan

Figure: 2

Project: E22913 AA_Rev0



LEGEND

- Approximate site boundary
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Groundwater Flow Direction

Figure: 3

Project: E22913 AA_Rev0

TABLES

Table T1 – Summary of Soil Investigation Results for Heavy Metals

Sample ID	Sampling Date	Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc
BH1M_0.5-0.6	4/03/2016	3	<0.3	12	17	26	0.02	2.9	8.2
BH4M_0.2-0.4	4/03/2016	4	<0.3	7.4	24	260	0.47	4.3	110
BH4M_1.5-1.95	4/03/2016	10	0.4	6.9	31	21	<0.01	<0.5	5.7
BH15M_0.2-0.4	4/03/2016	5	0.6	10	29	100	0.1	12	340
BH15M_1.8-2.0	4/03/2016	6	0.5	21	13	24	0.02	2.9	6.5
BH2_0.2-0.4	9/03/2016	5	0.4	18	19	99	0.15	4.5	53
BH2_1.2-1.5	9/03/2016	<3	<0.3	5.7	15	21	<0.01	<0.5	3.2
BH3_0.2-0.4	9/03/2016	8	1.3	24	180	830	0.3	15	690
BH3_0.8-1.0	9/03/2016	4	0.6	16	35	100	0.07	3.9	120
BH9M_0.2-0.3	9/03/2016	<3	0.3	39	14	27	0.02	41	40
BH9M_2.0-2.1	9/03/2016	4	0.4	9.8	36	29	<0.01	1.1	12
BH11M_0.1-0.2	9/03/2016	4	0.5	12	29	260	0.59	5.4	260
BH11M_1.0-1.1	9/03/2016	3	<0.3	6.4	6.1	12	0.02	<0.5	7.9
BH6M 0.2-0.4	11/03/2016	5	<0.3	14	13	25	<0.01	2.7	21
BH6M 1.3-1.5	11/03/2016	5	<0.3	15	19	41	0.02	4.7	41
BH7 0.2-0.4	11/03/2016	6	<0.3	15	18	26	0.01	2.6	18
BH7 2.3-2.5	11/03/2016	7	0.4	18	21	27	<0.01	1.9	18
BH12 0.2-0.4	11/03/2016	7	0.9	15	46	360	0.11	5.9	440
BH12 1.3-1.5	11/03/2016	7	0.7	29	3.2	22	0.02	1.2	11
BH16 0.4-0.5	17/03/2016	<3	0.4	4.8	58	16	0.01	0.5	7.8
BH17 0.9-1.0	17/03/2016	<3	0.3	5.1	25	21	0.03	2.6	12
BH18 0.4-0.5	17/03/2016	4	<0.3	2.1	19	7	<0.01	<0.5	3.5
BH20 3.3-3.4	17/03/2016	<3	<0.3	1.3	9.8	11	<0.01	<0.5	2.3
BH21 0.4-0.5	17/03/2016	<3	<0.3	4.2	24	44	0.18	5.4	35
BH21 1.4-1.5	17/03/2016	7	0.7	22	16	30	0.02	4.4	29
BH22 0.4-0.5	17/03/2016	<3	<0.3	0.7	0.7	1	0.06	<0.5	<0.5
BH22 1.1-1.2	17/03/2016	10	0.9	23	16	27	<0.01	2.4	12
BH23 0.4-0.5	17/03/2016	5	0.5	13	21	150	0.1	3.6	84
BH23 1.4-1.5	17/03/2016	3	1.1	18	38	32	<0.01	0.6	12
BH24 0.4-0.5	17/03/2016	8	0.6	15	27	130	0.08	7.9	220
BH24 2.4-2.5	17/03/2016	5	0.3	13	18	23	<0.01	1.3	15
BH25 0.3-0.4	17/03/2016	4	0.4	17	20	150	0.19	12	120
BH27 2.3-2.4	17/03/2016	18	<0.3	4.6	13	16	<0.01	0.6	5.7
SILs									
HIL B[1]	*Residential with minimal access to soil*	500 [2]	150	500 Cr(VI)	30,000	1,200[3]	120 [4]	1,200	60,000
EILs[5]	*Urban Residential and public open space*	100	NR	205 [6]	160 [7]	1,260	NR	35 [8]	195 [9]

indicates concentration exceeds HSL.

indicates concentration exceeds ESL.

Notes:

All results are reported in mg/kg unless stated otherwise

SIL Soil investigation Levels.

HIL Health-based investigation levels (mg/kg) as per NEPM 1999 Schedule B1 2013 Amendment.

EIL Ecological Investigation Levels (mg/kg) as per NEPM. As physiochemical properties were not analysed, the most conservative value applicable to the site was applie

N.R. No Recommended soil assessment criteria are currently available for the indicated parameter(s).

N.A. Not analysed.

1 HIL A - residential sites with garden/ accessible soil

2 Arsenic - HIL assumes 70% oral bioavailability. Site-specific bioavailability may be important and should be considered where appropriate (refer to NEPM 1999 Sche

3 Lead - HIL is based on blood lead models (IEUBK for HILs A, B and C and adult lead model for HIL D where 50% oral bioavailability has been considered. Site-speci bioavailability may be important and should be considered where appropriate.

4 Value shown is representative of inorganic mercury as provided in Table 1A(1) (refer to NEPM 1999 Schedule B1 2013 Amendment).

5 EIL values are for urban residential and public open space. Assumes an old NSW high traffic suburb.

6 Assumes clay content >10%

7 Assumesassumes pH 5.5

8 Aassumes CEC 5

9 Assumes pH5.5 & CEC 5

Table T2 – Summary of Soil Investigation Results for TPH, BTEX, PAH, Naphthalene, VOC, OCPs, OPPs and PCBs

Sample ID	Sampling Date	PID Reading (PPM)	Total Petroleum Hydrocarbons (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene* (mg/kg)	Carcinogenic PAHs (as BaP TEQ)**	Total PAHs	Benzo(a)pyrene	Aldrin and dieldrin	Other OCPs	OPPs	PCBs
			F1[1]	F2[2]	F3[3]	F4[4]												
BH1M_0.5-0.6	4/03/2016	0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.D.	N.D.	N.D.
BH4M_0.2-0.4	4/03/2016	0.7	<25	<25	100	<120	<0.1	<0.1	<0.1	<0.3	<0.1	3.4	29	2.4	N.D.	N.D.	N.D.	N.D.
BH4M_1.5-1.95	4/03/2016	0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH15M_0.2-0.4	4/03/2016	1.5	<25	42	1500	280	<0.1	<0.1	<0.1	<0.3	0.1	58	470	40	N.D.	N.D.	N.D.	N.D.
BH15M_1.8-2.0	4/03/2016	0.6	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH2_0.2-0.4	9/03/2016	0.3	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	1.9	16	1.3	0.4	N.D.	N.D.	N.D.
BH2_1.2-1.5	9/03/2016	0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH3_0.2-0.4	9/03/2016	0.5	<25	120	3000	650	<0.1	<0.1	<0.1	<0.3	7.1	110	1200	78	1.6	N.D.	N.D.	N.D.
BH3_0.8-1.0	9/03/2016	0.5	<25	<25	250	<120	<0.1	<0.1	<0.1	<0.3	0.3	10	100	7	N.A.	N.A.	N.A.	N.A.
BH9M_0.2-0.3	9/03/2016	N.T.	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	0.9	<0.1	N.D.	N.D.	N.D.	N.D.
BH9M_2.0-2.1	9/03/2016	N.T.	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.3	2.5	0.2	N.A.	N.A.	N.A.	N.A.
BH11M_0.1-0.2	9/03/2016	N.T.	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	2.8	21	1.9	N.D.	N.D.	N.D.	N.D.
BH11M_1.0-1.1	9/03/2016	N.T.	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH6M 0.2-0.4	11/03/2016	0	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	1.2	10	0.8	N.D.	N.D.	N.D.	N.D.
BH6M 1.3-1.5	11/03/2016	0.1	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	1.6	12	1.1	N.A.	N.A.	N.A.	N.A.
BH7 0.2-0.4	11/03/2016	0.1	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.6	3	0.4	N.D.	N.D.	N.D.	N.D.
BH7 2.3-2.5	11/03/2016	0.1	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH12 0.2-0.4	11/03/2016	0	<25	<25	280	<120	<0.1	<0.1	<0.1	<0.3	0.2	11	95	7.5	N.D.	N.D.	N.D.	N.D.
BH12 1.3-1.5	11/03/2016	N.T.	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.4	3	0.2	N.A.	N.A.	N.A.	N.A.
BH16 0.4-0.5	17/03/2016	68	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.D.	N.D.	N.D.
BH17 0.9-1.0	17/03/2016	28	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH18 0.4-0.5	17/03/2016	0	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.D.	N.D.	N.D.
BH20 3.3-3.4	17/03/2016	0	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH21 0.4-0.5	17/03/2016	25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	1.3	9.8	0.9	N.D.	N.D.	N.D.	N.D.
BH21 1.4-1.5	17/03/2016	55	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.4	3.4	0.2	N.A.	N.A.	N.A.	N.A.
BH22 0.4-0.5	17/03/2016	0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	0.8	6.8	0.5	N.D.	N.D.	N.D.	N.D.
BH22 1.1-1.2	17/03/2016	0.6	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.A.	N.A.	N.A.	N.A.
BH23 0.4-0.5	17/03/2016	26.1	<25	<25	250	<120	<0.1	<0.1	<0.1	<0.3	<0.1	12	120	8.3	0.9	N.D.	N.D.	N.D.
BH23 1.4-1.5	17/03/2016	5.6	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.A.	N.A.	N.A.
BH24 0.4-0.5	17/03/2016	0.6	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	1.3	10	0.9	N.A.	N.D.	N.D.	N.D.
BH24 2.4-2.5	17/03/2016	0.1	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.A.	N.A.	N.A.
BH25 0.3-0.4	17/03/2016	0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	3.5	27	2.4	N.A.	N.D.	N.D.	N.D.
BH27 2.3-2.4	17/03/2016	0.6	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.8	<0.1	N.D.	N.A.	N.A.	N.A.
SILs																		

Sample ID	Sampling Date	PID Reading (PPM)	Total Petroleum Hydrocarbons (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene* (mg/kg)	Carcinogenic PAHs (as BaP TEQ)**	Total PAHs	Benzo(a)pyrene	Aldrin and dieldrin	Other OCPs	OPPs	PCBs
			F1[1]	F2[2]	F3[3]	F4[4]												
HSL A & B (Clay)	0 m to <1 m		50	280	NL	NL	0.7	480	NL	110	5	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
	1 m to < 2 m		90	NL	NL	NL	1	NL	NL	310	NL	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
	2 m to <4 m		150	NL	NL	NL	2	NL	NL	NL	NL	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
	4 m +		290	NL	NL	NL	3	NL	NL	NL	NL	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
HIL B	Residential with minimal access to soil		N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	4	400	N.R.	10	N.R.	N.R.	1
ESLs[5]	Fine grained		180*	120*	1,300	5,600	65	105	125	45	N.R.	N.R.	N.R.	0.7	N.R.	N.R.	N.R.	N.R.
EIL	Generic EIL Urban Residential and public open space										170							

Notes: All results are reported in mg/kg unless stated otherwise

All soil assessment criteria are sourced from National Environment Protection (Assessment of Site Contamination) Measure 1999 – Amendment 2013, Schedule (B1) - Guideline on Investigation Levels for Soil and Groundwater (NEPM 2013).

SIL Soil investigation Level.

HSL Health screening levels (w/w) based on Low-high density residential (clay).

ESL Ecological screening level for urban residential / public open sapce sites, as per Table 1B(6) of NEPM 2013 Schedule B1

N.R. No Recommended soil assessment criteria are currently available for the indicated parameter(s).

NL Not Limiting" i.e. the derived soil HSL exceeds the maximim the soil saturation concentration.

N.A. Not analysed.

N.D. Not detected

* Results reported are volatile Naphthalene.

** Carcinogenic PAHs (as BaP TEQ)-assume results <LOR=LOR

1 F1 = TRH C6-C10 less BTEX

2 F2 = TRH > C10 - C16 less Naphthalene

3 F3 = TRH > C16 - C34

4 F4 = TRH > C34 - C40

5 ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability. (Ref: Table 1B(6) NEPM 2013)

Table T3 – Summary of Soil Investigation Results for Asbestos

Sample ID	Asbestos	Asbestos (% w/w)
Samples taken on 04/03/2016		
BH1M_0.5-0.6	No	<0.01
BH4_0.2-0.4	No	<0.01
BH4_1.5-1.95	NA	NA
BH15_0.2-0.4	No	<0.01
BH15_1.8-2.0	NA	NA
Samples taken on 09/03/2016		
BH2_0.2-0.4	No	<0.01
BH2_1.2-1.5	No	<0.01
BH3_0.2-0.4	Yes	<0.01
BH3_0.8-1.0	No	<0.01
BH9M_0.2-0.3	No	<0.01
BH9M_2.0-2.1	No	<0.01
BH11M_0.1-0.2	No	<0.01
BH11M_1.0-1.1	No	<0.01
Samples taken on 11/03/2016		
BH6 0.2-0.4	No	<0.01%
BH6 1.3-1.5	NA	NA
BH7 0.2-0.4	No	<0.01%
BH7 2.3-2.5	NA	NA
BH12 0.2-0.4	No	<0.01%
BH12 1.3-1.5	NA	NA
Samples taken on 17/03/2016		
BH16 0.4-0.5	No	<0.01%
BH17 0.9-1.0	NA	NA
BH18 0.4-0.5	No	<0.01%
BH20 3.3-3.4	NA	NA
BH21 0.4-0.5	No	<0.01%
BH21 1.4-1.5	NA	NA
BH22 0.4-0.5	No	<0.01%
BH22 1.1-1.2	NA	NA
BH23 0.4-0.5	No	<0.01%
BH23 1.4-1.5	NA	NA
BH24 0.4-0.5	No	<0.01%
BH24 2.4-2.5	NA	NA
BH25 0.3-0.4	No	<0.01%
BH27 2.3-2.4	NA	NA
HSL		
Residential B [1]		0.04%

Notes:

All soil assessment criteria are sourced from National Environment Protection (Assessment of Site Contamination) Measure 1999 – Amendment 2013, Schedule (B1) - Guideline on Investigation Levels for Soil and Groundwater (NEPM 2013).

HSL Health screening levels (w/w)

1 Residential B: Residential with minimal access to soil.

Sample ID		Heavy Metals								BTEXN					TRH				PAHs		
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Benzene	Toluene	Ethylbenzene	Total Xylene	Naphthalene	F1*	F2**	F3***	F4****	Total PAHs	Benzo(a)pyrene	Naphthalene
BH1M		<1	0.5	<1	3	<1	<0.0001	9	230	<0.5	<0.5	<0.5	<1.5	<0.5	<50	<60	<500	<500	<1	<0.1	<0.1
BH4M		1	<0.1	<1	5	<1	<0.0001	2	190	<0.5	<0.5	<0.5	<1.5	<0.5	<50	<60	<500	<500	<1	<0.1	<0.1
BH6M		<1	<0.1	<1	2	<1	<0.0001	13	68	<0.5	<0.5	<0.5	<1.5	<0.5	<50	<60	<500	<500	<1	<0.1	<0.1
BH9M		<1	<0.1	<1	<1	<1	<0.0001	3	12	<0.5	<0.5	<0.5	2.3	<0.5	<50	140	<500	<500	<1	<0.1	<0.1
BH10M		<1	<0.1	<1	<1	<1	<0.0001	3	12	<0.5	<0.5	<0.5	5.5	<0.5	150	110	<500	<500	<1	<0.1	<0.3
BH11M		1	<0.1	<1	4	<1	<0.0001	9	35	<0.5	<0.5	<0.5	<1.5	<0.5	<50	<60	<500	<500	<1	<0.1	<0.1
BH15M		3	<0.1	<1	2	<1	<0.0001	3	330	<0.5	<0.5	<0.5	<1.5	<0.5	<50	<60	<500	<500	<1	<0.1	<0.1
GIL																					
GIL (Marine Waters)		NR	0.7[2]	27 (Cr III) 4.4 (Cr VI)	1.3	4.4	0.1[2]	7[2]	15[3]	500[3]	180[4]	5[4]	75[4]	50	50[1]	60[1]	500[1]	500[1]	NR	NR	NR
HSL A & B (Clay)	2 m to < 4 m	NR								5,000	NL	NL	NL	NL	NL	NL	NR				
	4 m to < 8 m									5,000	NL	NL	NL	NL	NL	NL					

Notes:	All results and criteria are in µg/L, unless otherwise noted.
	Highlighted values indicate concentrations exceed the adopted GIL.
GIL (Marine Waters)	NEPM 2013 Schedule B1 . Groundwater investigation level for marine waters ecosystem
HSL A & B	Health screening level for residential sites, as per Table 1A(4) of NEPM 2013 Schedule B1. As soils encountered during field investigation comprised primarily clayey materials, HSL for clay was adopted. HSL are applied based on the estimated source depth of groundwater at each monitoring well.
NL	Not Limited (Ref. NEPM 2013, Schedule B1, Table 1(A)4)
NR	No recommended assessment criteria are currently available for the indicated parameter(s).
PQL	(Laboratory's) Practical Quantitation Limit
NT	Not tested.
*	F1 = TRH C6-C10 less BTEX
**	F2 = TRH > C10-C16 less Naphthalene
***	F3 = TRH > C16-C34
****	F4 = TRH > C34 - C40
1	ANZECC (2000) provides 7 µg/L as an assessment guideline for total petroleum hydrocarbons. Since the laboratory practical quantitation limits (PQL) is higher than the ANZECC guideline, the PQL has been adopted as the
2	The 99% Trigger Values were adopted for this assessment. Ref. ANZECC & ARMCANZ (2000).
3	Indicated threshold value may not protect key species from chronic toxicity. Ref. ANZECC & ARMCANZ (2000).
4	Low reliability 95% trigger values were adopted. Ref. Section 8.3.7, ANZECC & ARMCANZ (2000).

Sample ID	VOCs				
	Chloroform	Bromodichloromethane	Dibromochloromethane	1,3,5-trimethylbenzene	1,2,4-trimethylbenzene
BH1M	42	15	4	<0.5	<0.5
BH4M	<0.5	<0.5	<0.5	<0.5	<0.5
BH6M	<0.5	<0.5	<0.5	<0.5	<0.5
BH9M	11	0.8	<0.5	0.6	<0.5
BH10M	10	0.7	<0.5	6.7	2.8
BH11M	21	6.4	1.2	<0.5	<0.5
BH15M	29	8.5	1.6	<0.5	<0.5
GIL					
GIL (Marine Waters)1	NR	NR	NR	NR	NR
Region 9 SSL [2]	29	19	14		

Notes:

1= GIL (Marine Waters) Groundwater investigation level for marine waters ecosystem. All GIL values were sourced from Table 1C of NEPM 2013 Schedule B1 unless otherwise noted.

PQL (Laboratory's) Practical Quantitation Limit

Appendix A
Proposed Development Plans

Scale: 1:200 @A1 1:400 @A3

0 2 4 6 8 10 20m

ARCHITECTURE & BUILDING WORKS

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Email: info@abworks.com.au

Architects
Construction Managers
Interior Designers
Town Planners

PROJECT

RESIDENTIAL DEVELOPMENT

ADDRESS

RSL CLUB SITE, PETERSHAM

ISSUE	REV	REVISION DESCRIPTION	APP'D	DATE

AMENDMENTS

Drawing Number: A-1000 | Date Printed: 25/11/2015 | Issue: A

Drawing Title: L GROUND FLOOR PLAN

Drawing Status: PRELIMINARY

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APPLICANT

PROJECT NUMBER PN-15010

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01 SOUTH ELEVATION (FISHER STREET)

SCALE 1: 400 @ A3

02 WEST ELEVATION (REGENT STREET)

SCALE 1: 400 @ A3

A. SANDSTONE | B. WHITE RENDER | C. METAL CLADDING | D. GLASS BALUSTRADES | F. ALUMINIUM PRIVACY SCREENING | G. ALUMINIUM FRAME WINDOWS

Scale: 1:200 @A1 1:400 @A3

0 2 4 6 8 10 20m

ARCHITECTURE & BUILDING WORKS
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Architects
Construction Managers
Interior Designers
Town Planners

PROJECT
RESIDENTIAL DEVELOPMENT

ADDRESS
RSL CLUB SITE, PETERSHAM

ISSUE	REV	REVISION DESCRIPTION	APP'D	DATE

AMENDMENTS

Drawing Number: A-1400 | Date Printed: 25/11/2015 | Issue: A

Drawing Title: ELEVATIONS

Drawing Status: PRELIMINARY

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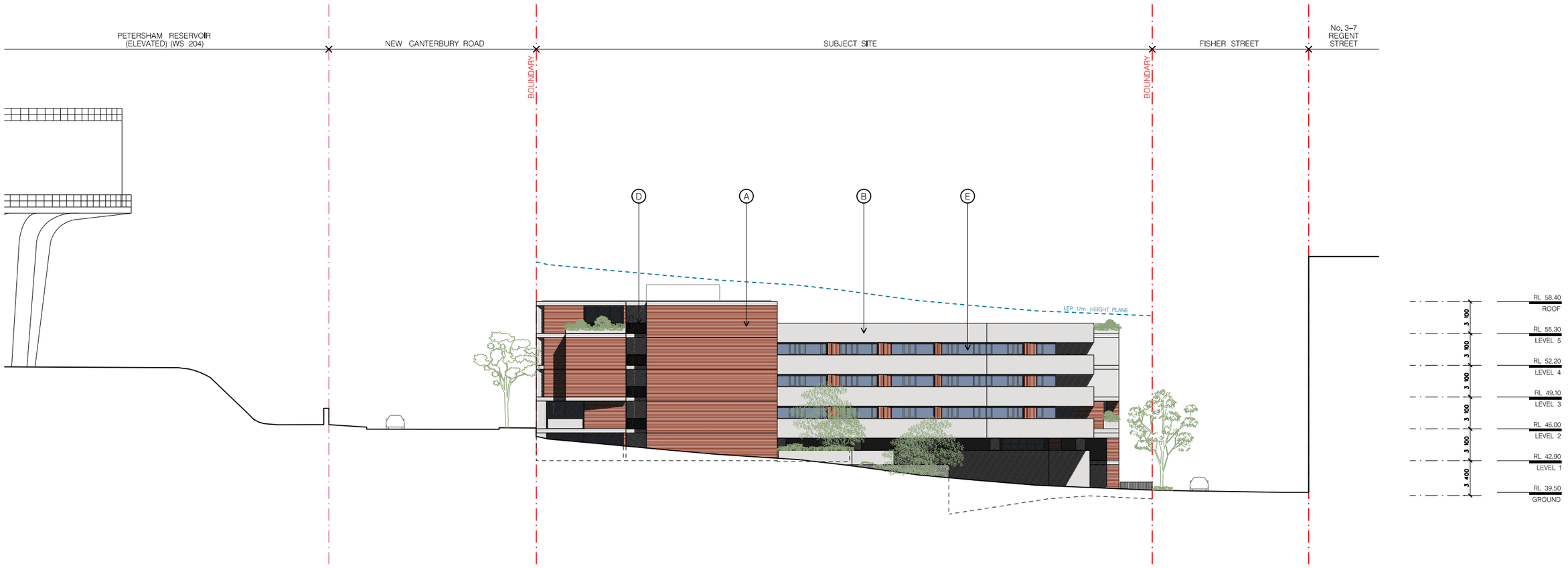
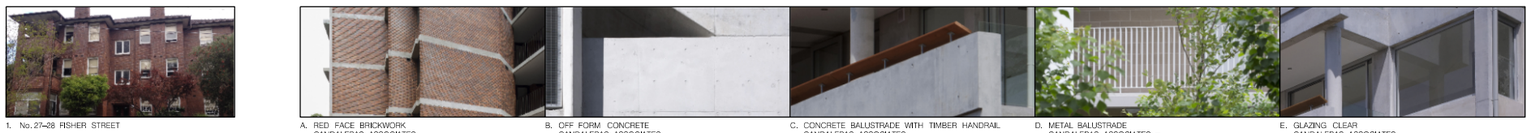


01 — EAST ELEVATION
1:200



1. No. 27–28 FISHER STREET

A. RED FACE BRICKWORK
CANDALEPAS ASSOCIATES
– FINLAYSON STREET

B. OFF FORM CONCRETE
CANDALEPAS ASSOCIATES
– ALL SAINTS PRIMARY SCHOOL

C. CONCRETE BALUSTRADE WITH TIMBER HANDRAIL
CANDALEPAS ASSOCIATES
– FRANCIS STREET

D. METAL BALUSTRADE
CANDALEPAS ASSOCIATES –
REVOLUTION APARTMENTS

E. GLAZING CLEAR
CANDALEPAS ASSOCIATES
– FRANCIS STREET

PRELIMINARY

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Rev	Date	Drawing Update
P5	20.11.15	CLIENT/COUNCIL MEETING
P4	13.11.15	CLIENT ISSUE
P3	13.10.15	CLIENT ISSUE

A1

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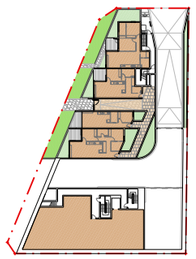
SYDNEY NSW 2000
T: 02 9283 7755
F: 02 9283 7477
E: architects@candalepas.com.au
NSW ARCHITECTS REG No. 5773

PROJECT:
3–7 REGENT STREET, 13–17 REGENT STREET, 287 TRAFALGAR STREET
CLIENT:
DEICORP PROJECTS (PETERSHAM) P/L
SCALE: 1:200@A1
0 1m 2m 5m

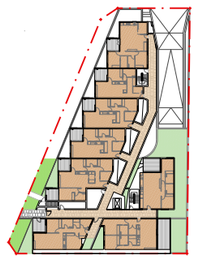
DATE: 20 NOV 2015
CHECKED 1: ET
CHECKED 2: –
DRAWN BY: ET/LP/G

DRAWING: ELEVATIONS
DRAWING No. SK – 1302

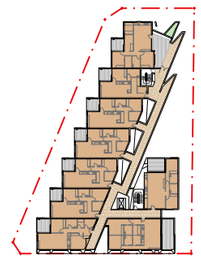
JOB No. 5766
ISSUE P5



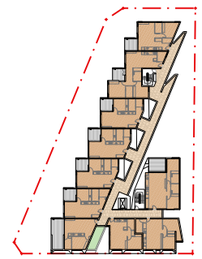
GROUND FLOOR	AREA
RESIDENTIAL + STORE	562 m²
CIRCULATION	82 m²
TOTAL LEVEL GFA	562 m²



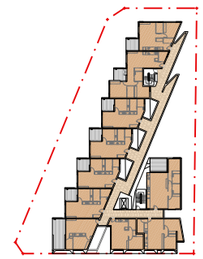
LEVEL 1 PLAN	AREA
RESIDENTIAL	688 m²
CIRCULATION	165 m²
TOTAL LEVEL GFA	688 m²



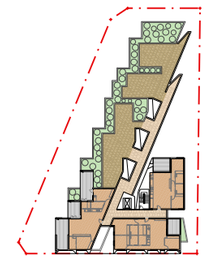
LEVEL 2 PLAN	AREA
RESIDENTIAL	758 m²
CIRCULATION	159 m²
TOTAL LEVEL GFA	758 m²



LEVEL 3 PLAN	AREA
RESIDENTIAL	657 m²
CIRCULATION	153 m²
TOTAL LEVEL GFA	657 m²



LEVEL 4 PLAN	AREA
RESIDENTIAL	657 m²
CIRCULATION	153 m²
TOTAL LEVEL GFA	657 m²



LEVEL 5 PLAN	AREA
RESIDENTIAL	281 m²
CIRCULATION	118 m²
COMMON OPEN SPACE	239 m²
TOTAL LEVEL GFA	281 m²

LANDSCAPE	AREA	% OF SITE AREA
DEEP SOIL	166 m²	8.4%
NOT DEEP SOIL	497 m²	–
TOTAL LANDSCAPED AREA	663 m²	39%

13–17 REGENT STREET – SITE 2

PERMISSIBLE

SITE AREA	1 960 m²
PERMISSIBLE FSR	1.8 : 1
PERMISSIBLE GFA	3 528 m
NO. OF STOREYS	6
LEP HEIGHT PLANE	17 m

PROPOSED

GFA	3 604 m² (76 SQM OVER)
FSR	1.84 : 1
NO. OF UNITS (SITE 2)	44
TARGET (3 SITES)	350

UNIT MIX

	NO.	%	TARGET
STUDIO	1	2	0 %
1 BED	4	9	15 %
1 BED + STUDY	13	29	15 %
2 BED 1 BATH	2	5	10 %
2 BED 2 BATH	16	36	45 %
2 BED 2 BA STUDY	6	14	10 %
3 BED	2	5	5 %

PRELIMINARY

THE INFORMATION CONTAINED IN THIS DOCUMENT IS FOR THE CLIENT ONLY. THE CLIENT SHALL MAKE ITS OWN ENQUIRIES, ANALYSIS AND CALCULATIONS AND FORM ITS OWN VIEWS IN RELATION TO THE USE OR DEVELOPMENT OF THE PROPERTY INCLUDING THE APPLICATION OF LOCAL GOVERNMENT AND STATUTORY CONTROLS. IT IS ASSUMED THAT THE CLIENT WILL RELY ON ITS OWN EXPERTISE IN CONSIDERING THE INFORMATION.

Issue	Date	Description
P5	20.11.15	CLIENT/COUNCIL MEETING
P4	13.11.15	CLIENT ISSUE
P3	13.10.15	CLIENT ISSUE

Drawing Original Size: A1

FOR SCHEMATIC DESIGN PURPOSES ONLY

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DO NOT SCALE FROM THIS DRAWING. USE ONLY FIGURED DIMENSIONS.

ARCHITECT:
CANDALEPAS ASSOCIATES
L9, 219 CASTLEREAGH ST
SYDNEY NSW 2000
T: 02 9283 7755
F: 02 9283 7477
E: architects@candalepas.com.au
NSW ARCHITECTS REG No. 5773

PROJECT:
3–7 REGENT STREET, 13–17 REGENT STREET, 287 TRAFALGAR STREET

CLIENT:
DEICORP PROJECTS (PETERSHAM) P/L

SCALE: 1:200@A1
0 1m 2m 5m

DATE: 20 NOV 2015
CHECKED 1: ET
CHECKED 2: –
DRAWN BY: ET/LF/G

DRAWING: AREA CALCULATIONS
DRAWING No. SK – 1851

JOB No. 5766
ISSUE P5

Sketch Scheme

Rev	Description	Date
A	First Issue	21.09.15
B	Draft Planning	07.10.15
C	Intermediate Issue	13.11.15
D	Progress Issue	25.11.15

PROPOSED REDEVELOPMENT - RSL SITE 3 TRAFALGAR STREET PETERSHAM

NORDON · JAGO ARCHITECTS

CNR PARRAMATTA RD & JOHNSTON ST - PO BOX 254 - ANNANDALE - NSW 2038 - T.02 9564 8800 F.02 9517 2833
STEPHEN J. NORDON REGISTRATION No. NSW - 4704 GRAHAM P. JAGO REGISTRATION No. NSW - 4926

C:\0. Local Files\DEI00614\DEI00614_DN Model_Local_Site 3_KL.rvt

TITLE

South Aerial View

JOB No.	DEI00614
DATE	21.09.2015
SCALE	A1 @
DWG No.	DN.014 D

Appendix B
Registered Groundwater Bores Search

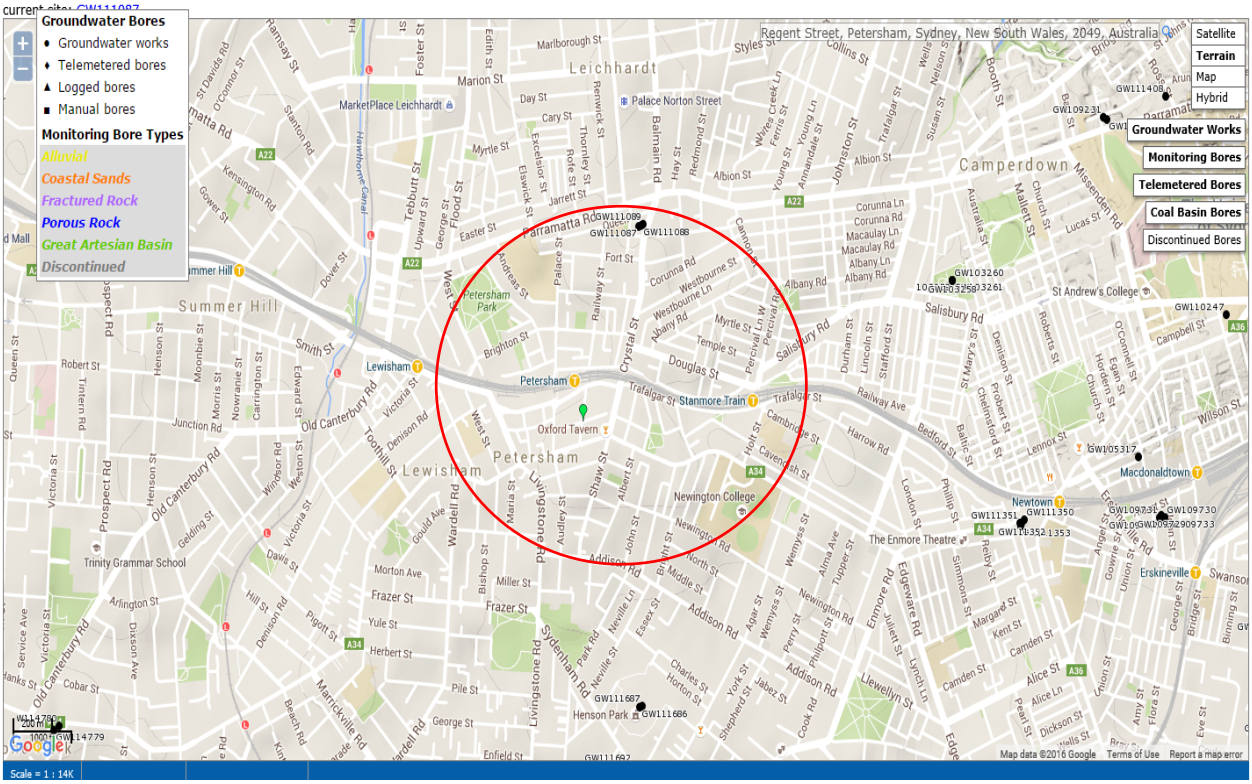
All Groundwater

bookmark this page

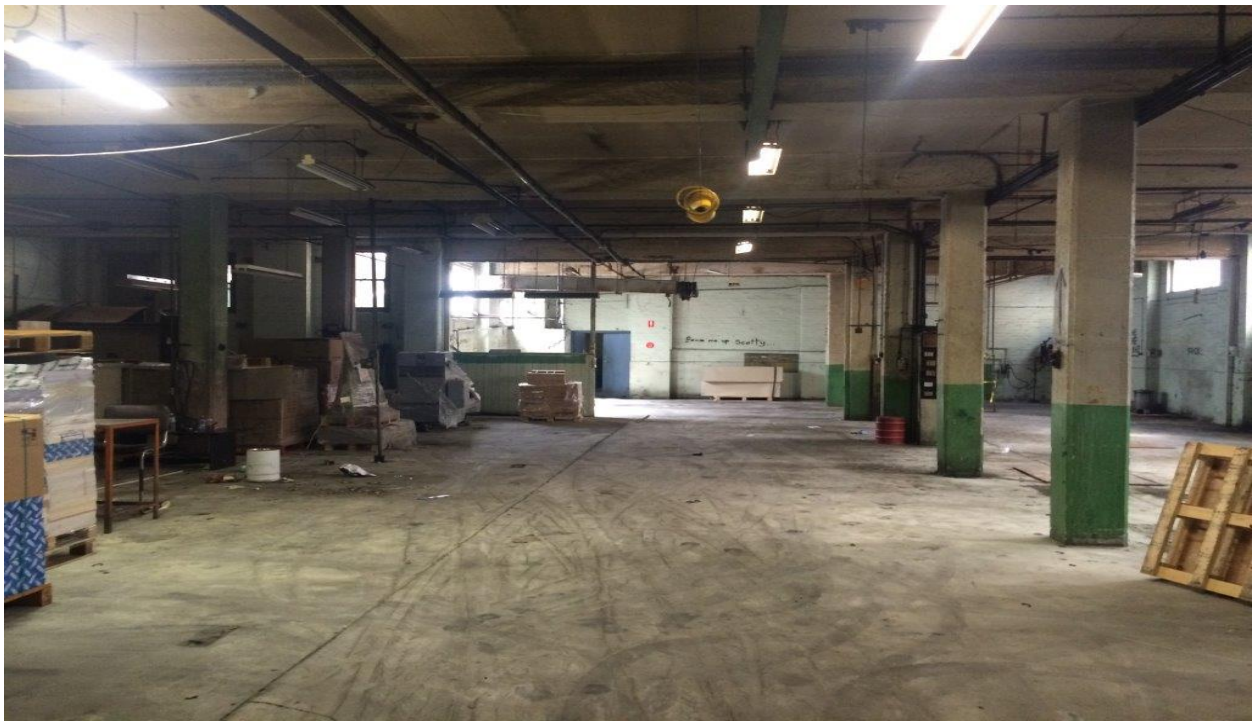
All Groundwater Map

All data times are Eastern Standard Time

Map | Info



Appendix C
Site Photographs



Photograph 1: Site 3, 305-309 Trafalgar Street, warehouse interior, oil staining on concrete surfaces, metal and wood scrap materials noted throughout.

Photograph 2: : Site 3, 305-309 Trafalgar Street, redundant oven with ammonium chloride and magnesium stearate APS chemical distributors labels identified.

Photograph 3: Site 3, 305-309 Trafalgar Street, furnace.

Photograph 4: Site 3, 305-309 Underground Storage Tanks identified adjacent to roller door.

Photograph 5: Site 3, 301-303 Trafalgar Street, plastic wood and metal scrap material throughout, no hardstand cover noted throughout the footprint of the warehouse.

Photograph 6: Site 1, Underground car park, Diesel above ground storage tank.

Photograph 7: Site 2, Oper carpark entry via Regent Street.

Appendix D
Historical Property Titles Search

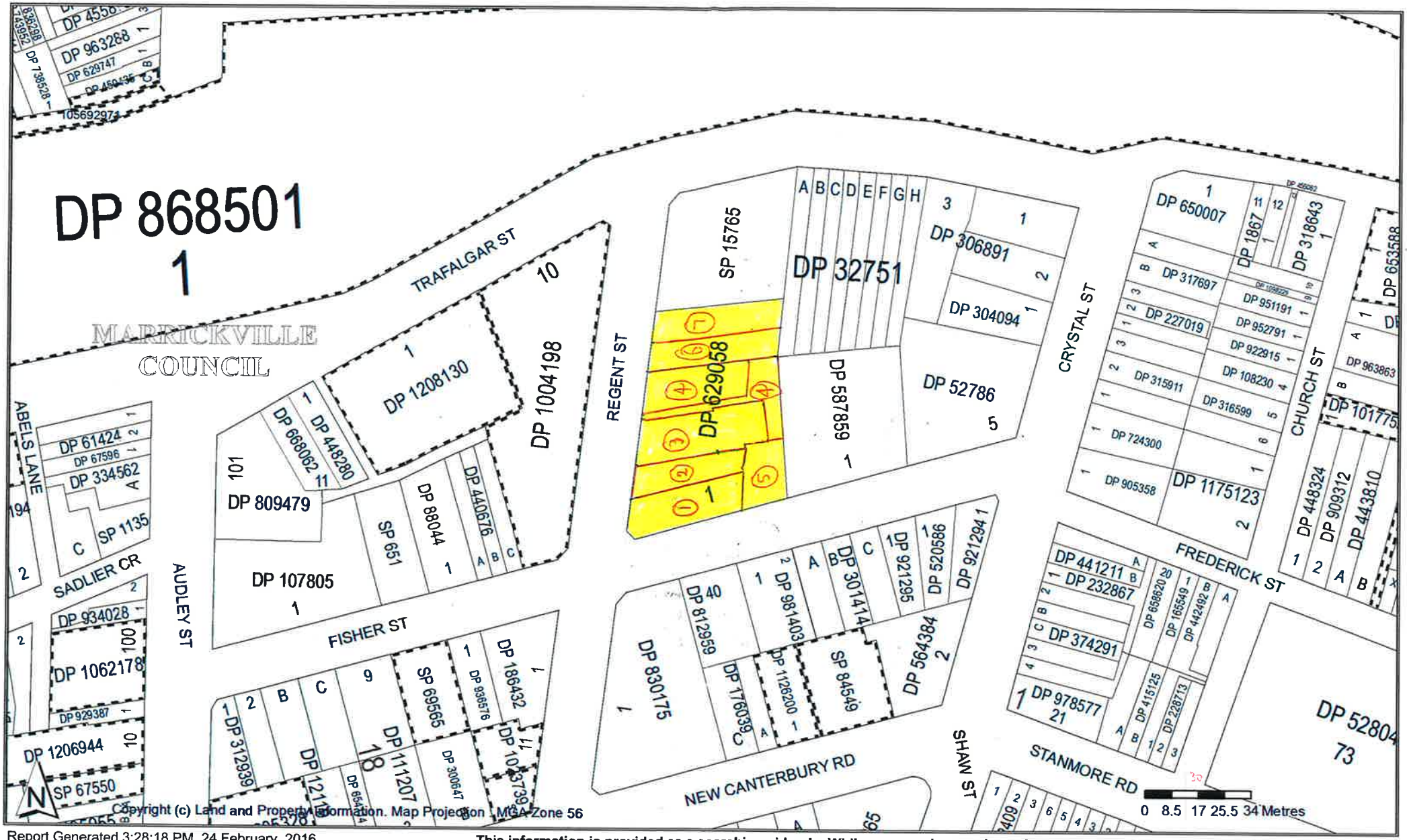
NSW Land & Property Information

Cadastral Records Enquiry Report

Ref : surv:scim-grollm

Requested Parcel : Lot 1 DP 629058 **Identified Parcel :** Lot 1 DP 629058

Locality : PETERSHAM **LGA :** MARRICKVILLE **Parish :** PETERSHAM **County :** CUMBERLAND



Report Generated 3:28:18 PM, 24 February, 2016

Copyright © Land and Property Information ABN: 84 104 377 806

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

Req:R273925 /Doc:CT 12271-093 CT /Rev:10-Jan-2011 /Sts:OK.OK /Pgs:ALL /Prt:01-Mar-2016 18:54 /Seq:1 of 2
Ref:petersham /Src:T

12271093

CERTIFICATE OF TITLE

NEW SOUTH WALES — REAL PROPERTY ACT, 1900

Appln. No.3050

Prior Title Vol.6496 Fol.218

Vol. 12271 Fol. 93

Edition issued 14-11-1973

N492346

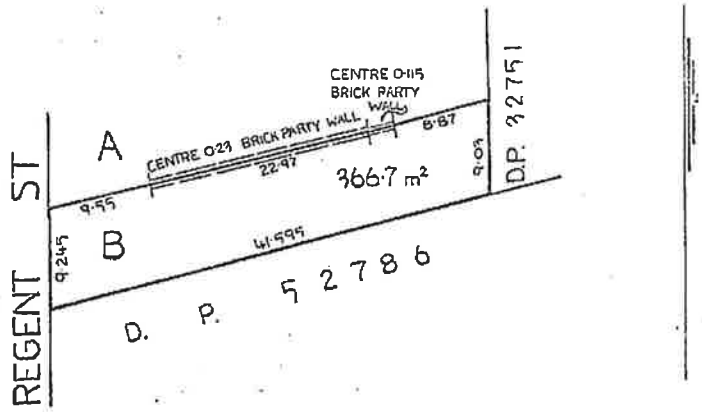
CANCELLED

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

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



REDUCTION RATIO 1:500

N492346 W.J. CKT

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot B in Deposited Plan 376510 in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 16.19 hectares granted to Neil McKellar on 11-12-1794.

FIRST SCHEDULE

~~CLIFTON WILLIAM CARR, of Petersham, Coilarman and MARY ELIZABETH CARR, his wife, as Joint Tenants~~

SECOND SCHEDULE

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

Registrar General

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON (Page 1) Vol. 12271 Fol. 93

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

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

Req:R273927 /Doc:CT 13562-003 CT /Rev:10-Jan-2011 /Sts:OK.SC /Pgs:ALL /Prt:01-Mar-2016 18:54 /Seq:1 of 2
Ref:petersham /Src:T

[redacted]CATE OF TITLE

NEW SOUTH WALES

[redacted] PROPERTY ACT, 1900

Appln. No.2786

Vol. 13562 Fol. 3

Prior Titles Vol.2655 Fol.210
Vol.2825 Fols.135 and 136
Vol.6877 Fols. 51 and 52

EDITION ISSUED

CANCELLED 2 3 1970

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

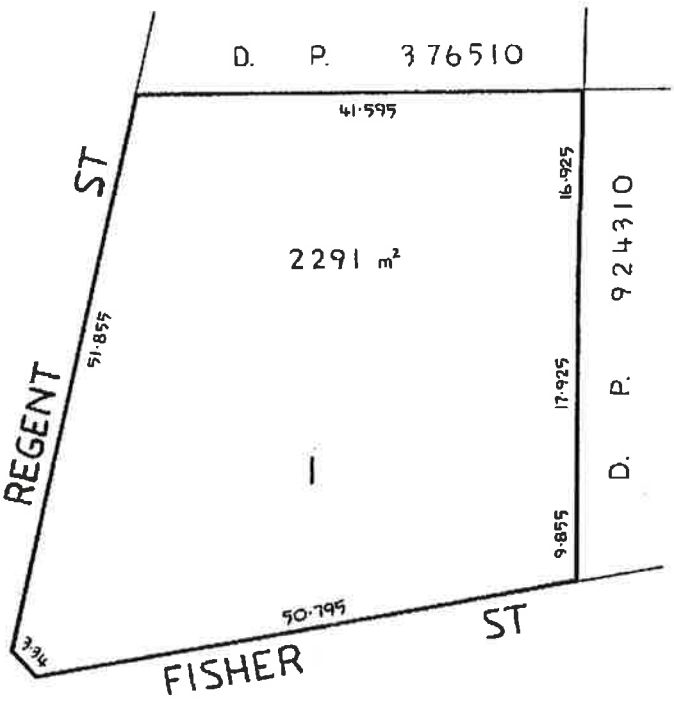
Registrar General.

13562 Fol. 3

(Page 1) Vol.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



D.P.587821 (2)

REDUCTION RATIO 1:500

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 587821 at Petersham in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 16.19 hectares granted to Neil McKellar on 11-12-1794.

FIRST SCHEDULE

PETERSHAM R.S.L. CLUB LIMITED.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. P279243 Lease to Sydney County Council of substation premises (together with Right of Way and Easement for Electricity Purposes) shown in plan in Lease No.P279243.

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.

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

Req:R273923 /Doc:CT 14949-176 CT /Rev:19-Jan-2011 /Sts:OK.SC /Pgs:ALL /Prt:01-Mar-2016 18:53 /Seq:1 of 2
Ref:petersham /Src:T

[redacted]FICATE OF TITLE

NEW SOUTH WALES [redacted]AL PROPERTY ACT, 1900

14949176

Prior Title : Old System

Vol. 14949 Fol. 176

Prior Titles : Vol. 6496 Fol.217
Vol.12271 Fol. 93
Vol.13562 Fol. 3

EDITION ISSUED

CANCELLED 12 1982

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

SEE AUTO FOLIO

Registrar General.

14949 Fol. 176

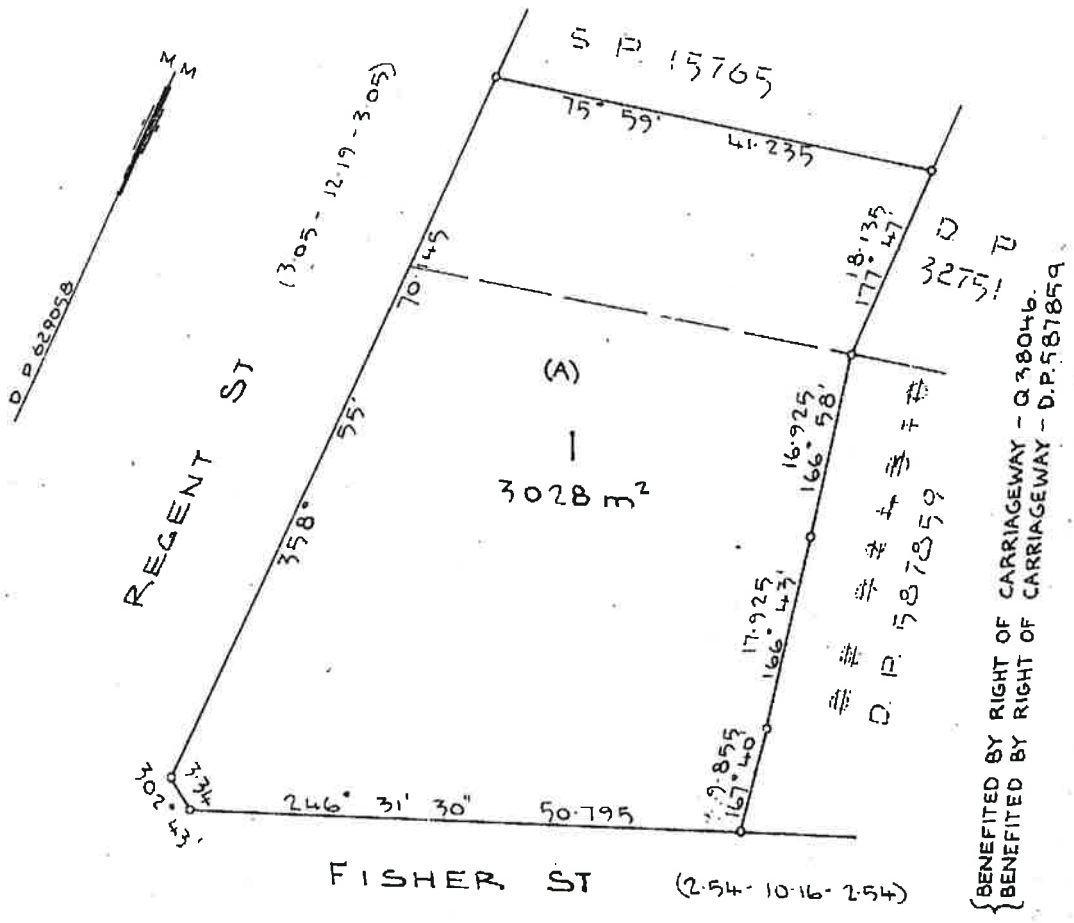
(Page 1) Vol.

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

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

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



LAND REFERRED TO

Lot 1 in Deposited Plan 629058 at Petersham in the Municipality of Marrickville Parish of Petersham and County of Cumberland.

FIRST SCHEDULE

PETERSHAM R.S.L. CLUB LIMITED

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant.
2. ~~P279243 Lease to Sydney County Council of Substation premises No.3522 as shown in plan with P279243, together with a right of way and easement for electricity purposes over another part of the land above described. Expires 28 2 1992.~~ X144929
3. Q38046 Right of carriageway appurtenant to the part of the land above described shown so benefited affecting the part of Lot 1 shown so burdened in Deposited Plan 587859.
4. DP587859 Right of carriageway appurtenant to the part of the land above described shown so benefited affecting the part of Lot 1 shown so burdened in Deposited Plan 587859.

RG 2/64

PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

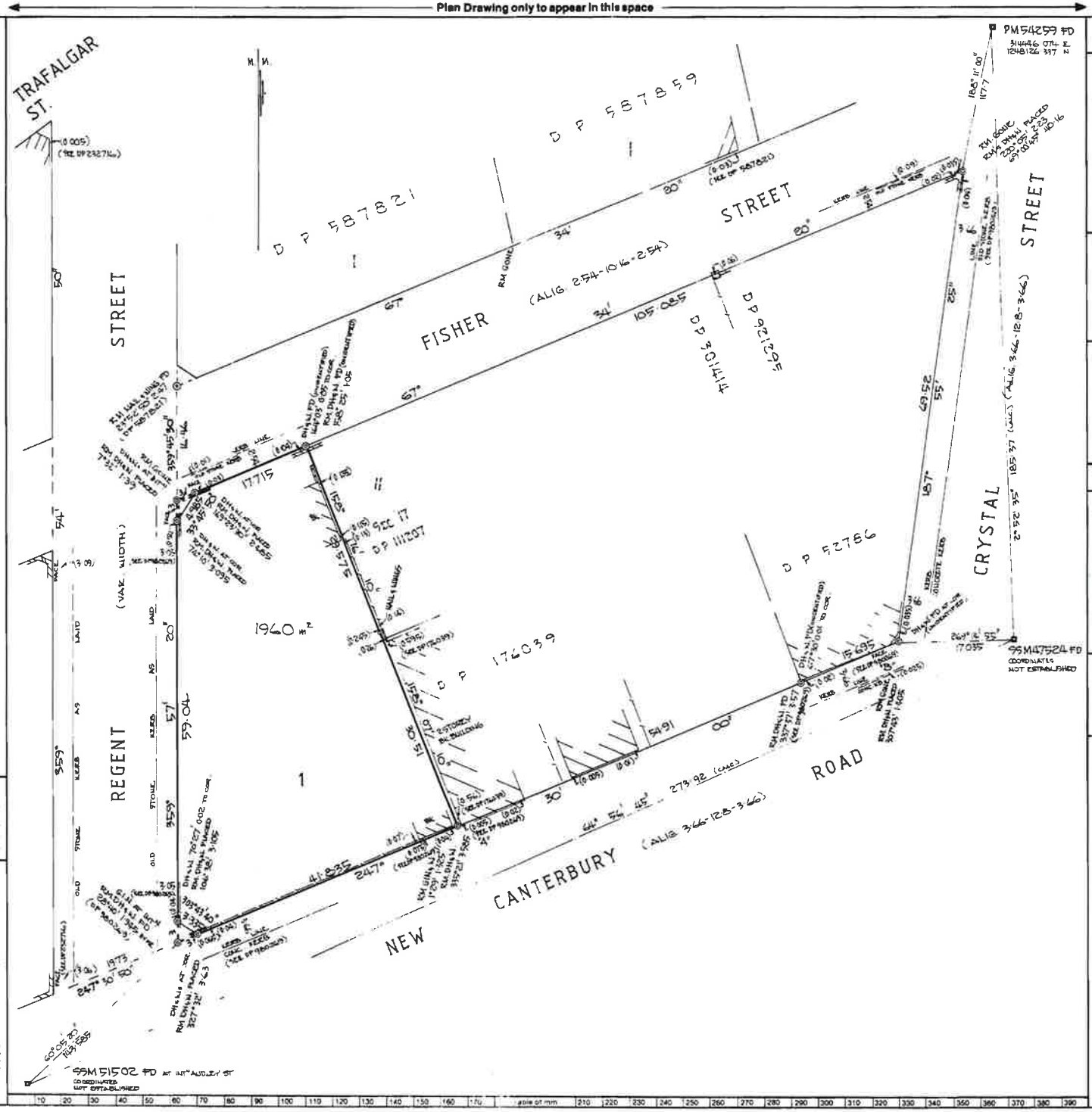
SIGNATURES, SEALS AND STATEMENTS of intention to dedicate public roads or to create reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

THE COMMON SEAL OF PETERSHAM R.S.L. CLUB LIMITED WAS HEREBY AFFIXED BY AUTHORITY OF THE DIRECTORS IN THE PRESENCE OF

[signature] O.A.M., J.P.

[signature] J.P.

[signature] ASSISTANT MANAGER



DP 830175

Registered 26-5-1993

C A NO 6/93 OF 17-3-1993

Title System TORRENS

Purpose CONSOLIDATION

Ref Map PETERSHAM SH.7 #

Last Plan DP 110490 DP 723454 DP 111207 DP 951248 DP 166860 DP 961809

PLAN OF CONSOLIDATION OF PT LOTS 5 & 6 SEC 17 DP111207, LOT 5 DP 110490, LOT 1 DP166860, LOT 1 DP 723454, LOT 1 DP951248, LOT 1 DP961809

Lengths are in metres Reduction Ratio 1 400

Mun./~~Shire~~ ~~City~~ MARRICKVILLE

Locality: PETERSHAM

Parish: PETERSHAM

County: CUMBERLAND

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

I, SURRY REGINALD FULLER of 394 NOOLOONARE RD CRONULLA

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

17.12.1992

Signature [signature]

Surveyor registered under Surveyors Act, 1929 as amended

Datum Line of Azimuth AB

Finest date of survey

Plans used in preparation of survey/compilation DP 110490, DP 166860, DP 176039, DP 232716, DP 587821, DP 723454, DP 951248, DP 961809, DP 980269

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

IT IS INTENDED TO DEDICATE THE TWO SPLAYED CORNERS AS PUBLIC ROAD

Crown Lands Office Approval

PLAN APPROVED

Authorised Officer

Land District

Paper No

Field Book pages

Council Clerk's Certificate

I hereby certify that

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

~~b) the requirements of Part 3 Division 2 of the † Water Board Act 1987 and † Water Supply Authorities Act 1987~~

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

Subdivision No 6/93

Date 17/3/93

(Signature) [signature]

Council File No 3950 13-17 T 1760 23-25 T

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

† Delete if inapplicable

SURVEYOR'S REFERENCE 26094

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Req:R278547 /Doc:DP 0830175 P /Rev:03-Jun-1993 /Sts:OK.OK /Pgs:ALL /Prt:02-Mar-2016 12:36 /Seq:1 of 1
Ref:petersham /Src:T

Req:R278917 /Doc:CT 10898-074 CT /Rev:28-Jan-2011 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 13:03 /Seq:1 of 2
Ref:petersham /Src:T

[redacted]

RTIFICATE OF TITLE

ROPERTY ACT, 1900, as amend

10898074

NEW SOUTH WALES

Vol. 10898 Fol. 74

Appln. No. 3222
Prior Title Vol. 3134 Fol. 163

Edition issued 4-10-1968

MF K955351

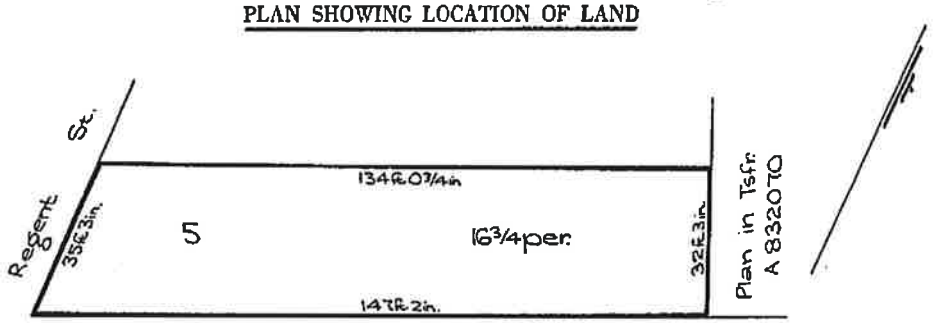
Fol. 74
Vol. 10898
(Page 1)

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 L. Bellinger

Registrar General.

PLAN SHOWING LOCATION OF LAND



CANCELLED

K955351 attach 2

Scale: 30 feet to one inch.

SEE AUTO FOLIO

5

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 5 in the plan lodged with Transfer No. A605656 (filed as F.P. 110490) in the Municipality of Marrickville, Parish of Petersham and County of Cumberland being part of 40 acres granted to Neil McKellar on 11-12-1794.

FIRST SCHEDULE

~~PHYLLIS MARY ALLWOOD, of Petersham, Femme Sole.~~

GRY

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
~~2. Mortgage No. H368248 to United Starr Bowkett Co-operative Building Society No. 11 Limited. Entered 28-9-1959.~~ discharged M642803

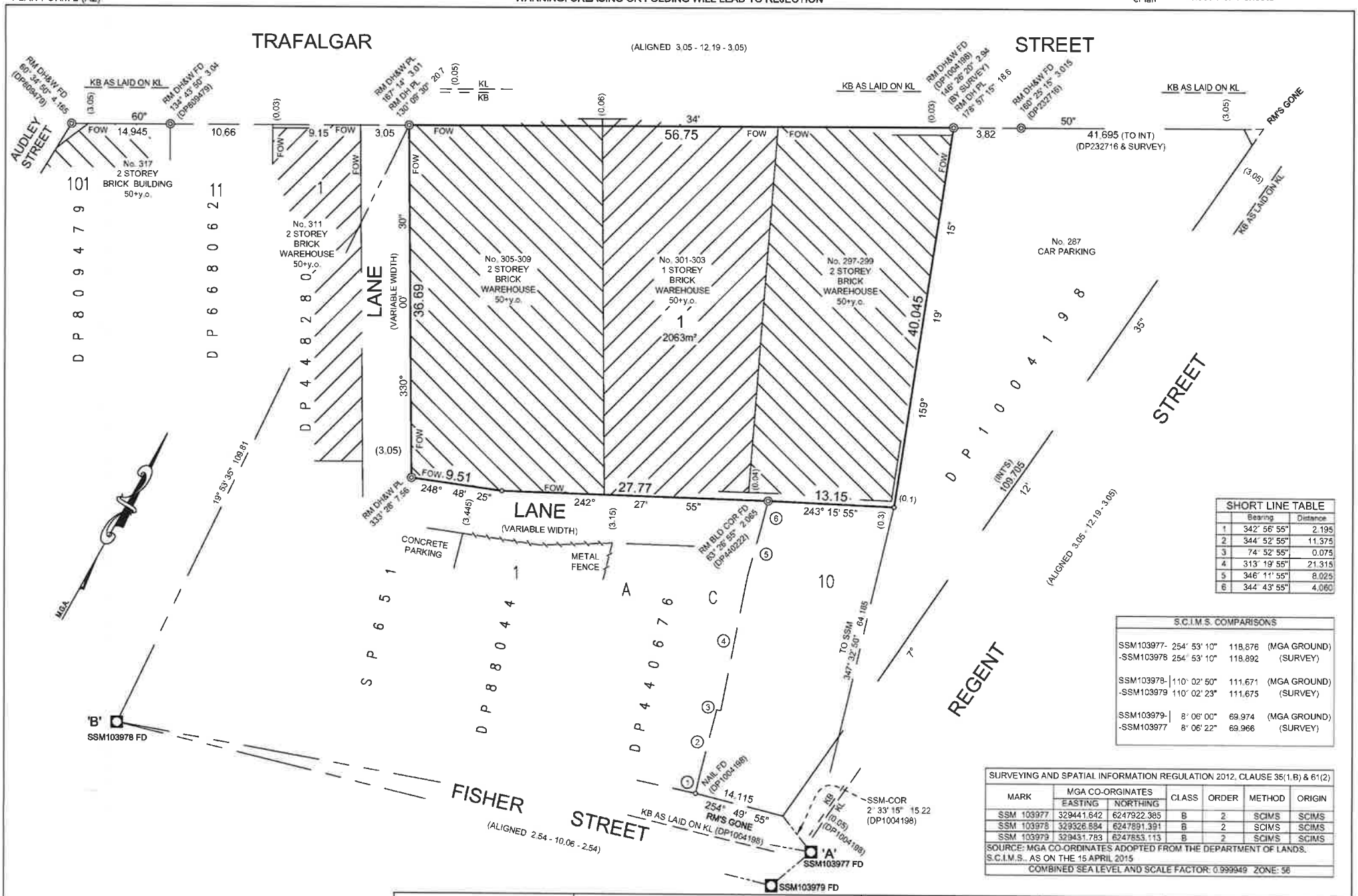
Registrar General.

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

RG 2/82 NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

PLAN FORM 2 (A2) DP1208130 WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION ePlan Sheet 1 of 1 sheets



SHORT LINE TABLE		
	Bearing	Distance
1	342° 56' 55"	2.195
2	344° 52' 55"	11.375
3	74° 52' 55"	0.075
4	313° 19' 55"	21.315
5	346° 11' 55"	8.025
6	344° 43' 55"	4.060

S.C.I.M.S. COMPARISONS			
SSM103977- -SSM103978	254° 53' 10" 254° 53' 10"	118.876 118.892	(MGA GROUND) (SURVEY)
SSM103978- -SSM103979	110° 02' 50" 110° 02' 23"	111.671 111.675	(MGA GROUND) (SURVEY)
SSM103979- -SSM103977	8° 06' 00" 8° 06' 22"	69.974 69.966	(MGA GROUND) (SURVEY)

SURVEYING AND SPATIAL INFORMATION REGULATION 2012, CLAUSE 35(1,B) & 61(2)

MARK	MGA CO-ORGINATES EASTING	NORTHING	CLASS	ORDER	METHOD	ORIGIN
SSM 103977	329441.642	6247922.365	B	2	SCIMS	SCIMS
SSM 103978	329326.884	6247891.391	B	2	SCIMS	SCIMS
SSM 103979	329431.783	6247853.113	B	2	SCIMS	SCIMS

SOURCE: MGA CO-ORDINATES ADOPTED FROM THE DEPARTMENT OF LANDS. S.C.I.M.S.. AS ON THE 15 APRIL 2015

COMBINED SEA LEVEL AND SCALE FACTOR: 0.999949 ZONE: 56

SURVEYOR: JOHN WALTON DATE OF SURVEY: 15 APRIL 2015 SURVEYOR'S REF: 2471-14DP	PLAN OF: CONSOLIDATION OF LOTS 1 IN DP62688, 1 IN DP735751, 4 IN DP1105379 & 1 IN DP68697	LGA: MARRICKVILLE LOCALITY: PETERSHAM SUBDIVISION No: —— Lengths are in metres. Reduction Ratio 1 : 250	REGISTERED: 23.7.2015	DP1208130

10 20 30 40 50 Table of mm 60 90 100 110 120 130 140 150

Req:R279646 /Doc:DP 1208130 P /Rev:23-Jul-2015 /Sts:SC.OK /Pgs:ALL /Prt:02-Mar-2016 14:05 /Seq:1 of 3
Ref:pet /Src:T

Req:R279646 /Doc:DP 1208130 P /Rev:23-Jul-2015 /Sts:SC.OK /Pgs:ALL /Prt:02-Mar-20
Ref:pet /Src:T

PLAN FORM 6 (2013) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 23.7.2015

Title System: **TORRENS**

Purpose: **CONSOLIDATION**

Office Use Only

DP1208130

PLAN OF CONSOLIDATION OF LOTS 1 IN DP62688, 1 IN DP735751, 4 IN DP1105379 & 1 IN DP68697

LGA: **MARRICKVILLE**

Locality: **PETERSHAM**

Parish: **PETERSHAM**

County: **CUMBERLAND**

Crown Lands NSW/Western Lands Office Approval

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

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, ...

*Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: .....

Consent Authority: .....

Date of endorsement: .....

Subdivision Certificate number: .....

File number: .....

*Strike through if inapplicable.

Survey Certificate

I, **JOHN WALTON**

Of **DAW & WALTON PTY LTD**

PO Box 3222, REDFERN NSW 2016

survey@daw-walton.com.au

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on ..... **15 APRIL 2015**

*(b) ~~The part of the land shown in the plan (*being/*excluding ^ ..... was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on ..... the part not surveyed was compiled in accordance with that Regulation.~~

*(c) ~~The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: ..... Dated: 29-4-15

Surveyor ID: 8430

Datum Line: 'A'--'B'

Type: *Urban/~~*Rural~~

The terrain is *Level-Undulating / ~~*Steep-Mountainous~~.

*Strike through if inapplicable.

^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads create public reserves and drainage reserves, acquire/resume land.

Plans used in the preparation of survey/compilation.

DP1004198 DP440222
DP68697 DP232716
DP62688 DP735751
DP1105379 DP448280
DP809479

If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference: 2471-14DP

Req:R279646 /Doc:DP 1208130 P /Rev:23-Jul-2015 /Sts:SC.OK /Pgs:ALL /Prt:02-Mar-20
Ref:pet /Src:T

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 23.7.2015

Office Use Only

DP1208130

PLAN OF **CONSOLIDATION OF LOTS 1 IN DP62688, 1 IN DP735751, 4 IN DP1105379 & 1 IN DP68697**

Subdivision Certificate number: ——

Date of Endorsement: ——

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Lot	Street Number	Street Name	Street Type	Locality
1	297-309	Trafalgar	Street	Petersham

FOUAD DEIRI

SOLE DIRECTOR / SECRETARY
DEICORP PROJECTS PETERSHAM PTY LTD
(ACN: 602 239 789)

Bank of Sydney Ltd ACN 093 488 629 by its Attorneys who have
No notice of revocation of the power of attorney dated 9/4/14
A certified copy of which is filed in Registration/ Book No 4667 940
in the presence of:

ATTORNEY ATTORNEY

WITNESS DOUGLAS SEMKEN
of 219 Castlereagh street Sydney NSW 2000

If space is insufficient use additional annexure sheet

Surveyor's Reference: 2471-14DP

Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
2/3/2016 1:33PM

FOLIO: 1/68697

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 2467 FOL 185

Recorded	Number	Type of Instrument	C.T. Issue
21/8/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
11/9/1990		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
5/9/2014	AI870563	DISCHARGE OF MORTGAGE	EDITION 1
28/2/2015	AJ294894	CAVEAT	
31/3/2015	AJ366510	WITHDRAWAL OF CAVEAT	
15/7/2015	AJ627440	TRANSFER	
15/7/2015	AJ627441	MORTGAGE	
22/7/2015	AJ674303	DEPARTMENTAL DEALING	
23/7/2015	DP1208130	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

petersham PRINTED ON 2/3/2016

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
2/3/2016 1:44PM

FOLIO: 4/1105379

First Title(s): OLD SYSTEM
Prior Title(s): BK 3224 NO 219

Recorded	Number	Type of Instrument	C.T. Issue
7/11/2006	DP1105379	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
7/11/2006	CA102606	CONVERSION ACTION	
16/11/2006	AC747324	DEPARTMENTAL DEALING	EDITION 1
28/2/2015	AJ294894	CAVEAT	
31/3/2015	AJ366510	WITHDRAWAL OF CAVEAT	
15/7/2015	AJ627440	TRANSFER	
15/7/2015	AJ627441	MORTGAGE	
22/7/2015	AJ674303	DEPARTMENTAL DEALING	
23/7/2015	DP1208130	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

petersham PRINTED ON 2/3/2016

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
2/3/2016 1:54PM

FOLIO: 1/735751

First Title(s): OLD SYSTEM
Prior Title(s): CA11975

Recorded	Number	Type of Instrument	C.T. Issue
27/8/1986	CA11975	CONVERSION ACTION	FOLIO CREATED EDITION 1
30/9/1986	W542551	DEPARTMENTAL DEALING	EDITION 2
3/11/1988	X947624	TRANSFER	EDITION 3
28/2/2015	AJ294894	CAVEAT	
31/3/2015	AJ366510	WITHDRAWAL OF CAVEAT	
15/7/2015	AJ627440	TRANSFER	
15/7/2015	AJ627441	MORTGAGE	
22/7/2015	AJ674303	DEPARTMENTAL DEALING	
23/7/2015	DP1208130	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

petersham PRINTED ON 2/3/2016

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

STAMP DUTY

[redacted]

OFFICE USE ONLY

X947624

TRANSFER

REAL PROPERTY ACT, 1900

T

CB 1 of 1 X

$ 42

R1/1

	Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
DESCRIPTION OF LAND Note (a)	Volume 11493 Folio 81 Folio Identifier 1/735751	WHOLE	Petersham

TRANSFEROR Note (b)

FOZZARD NOMINEES PTY LIMITED

ESTATE Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of $ 350,000.00 and transfers an estate in fee simple in the land above described to the TRANSFEREE

TRANSFEREE Note (d)

E. S. McCALLUM HOLDINGS PTY LIMITED

OFFICE USE ONLY

S

TENANCY Note (e)

~~as joint tenants/tenants in common~~

PRIOR ENCUMBRANCES Note (f)

subject to the following PRIOR ENCUMBRANCES 1. X 266854 (Lease)
2. X 358935 (Lease) 3.

DATE 21 OCTOBER 1988

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (g)

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

THE COMMON SEAL of FOZZARD NOMINEES PTY LIMITED

~~Signature of Witness~~

was hereunto affixed by authority of the

~~Name of Witness (BLOCK LETTERS)~~

Directors in the presence of: Margaret L. Fozzard

~~Address and occupation of Witness~~

Secretary

FOZZARD NOMINEES PTY. LIMITED Common Seal

Allan V. Fozzard

~~Signature of Transferor~~

Director

Note (g)

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

THE COMMON SEAL of E. S. McCALLUM HOLDINGS

~~Signature of Witness~~

PTY LIMITED was hereunto affixed by

~~Name of Witness (BLOCK LETTERS)~~

authority of the Directors in the

~~Address and occupation of Witness~~

presence of: X Ann Callum

Secretary

E. S. McCALLUM HOLDINGS PTY. LIMITED Common Seal

E. S. McCallum

~~Signature of Transferee~~

Director

TO BE COMPLETED BY LODGING PARTY Notes (h) and (i)

$42

S301

LODGED BY

SLY AND WEIGALL
SOLICITORS
60 MARGARET STREET
Tel: [illegible] SYDNEY
[illegible] 795D
DX [illegible]

Delivery Box Number

LOCATION OF DOCUMENTS

CT	OTHER	
2		Herewith.
		In L.T.O. with
		Produced by

OFFICE USE ONLY

Checked	Passed	REGISTERED
EA11		3 NOV 1988
Signed	Extra Fee	

Secondary Directions			
Delivery Directions	CT		795D

RD18

NSW [illegible] STAMP-DUTY [illegible] 39626 R [illegible]

RAZ Manual Endt. Complete 1/11/88

Req:R279546 /Doc:DL AJ627440 /Rev:21-Jul-2015 /Sts:NO.OK /Pgs:ALL /Prt:02-Mar-2016 13:57 /Seq:1 of 1
Ref:petersham /Src:T

Form: 01T (4)
Release: 6·1

TRANSFER

New South Wales
Real Property Act 1900

AJ627440W

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the R[illegible] 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: 120350770 3607
Duty: $10 Trans No: 8042648-001
Asst details:

OFFICE OF STATE REVENUE (N.S.W. TREASURY) 120350770 3607 ALTERATION NOTED

(A) **TORRENS TITLE** 1/62688, [redacted], 4/1105379 and 1/68697
1/735751

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
42G 048K	~~(#44934825) LGS:MAR108/1~~ DIAMOND CONWAY 123/644	T TW
	Reference: RDS 156213	

(C) **TRANSFEROR** E S McCallum Holdings Pty Limited ACN 000 253 403

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ 13,800,000.00 and as regards

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

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** Deicorp Projects Petersham Pty Ltd ACN 602 239 789

(I) **TENANCY:**

DATE

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

Company: E S McCallum Holdings Pty Limited ACN 000 253 403
Authority: section 127 of the Corporations Act 2001

Signature of authorised person: × [signature]
Name of authorised person: × Ronald Daniel McCallum
Office held: × Director / Secretary

Signature of authorised person: × Valerie M. Ferry
Name of authorised person: × Valerie Maude Ferry
Office held: × Director

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

Signature: [signature]
Signatory's name: Leon Sakaris
Signatory's capacity: solicitor

(K) The transferee certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. _____ Full name: Signature:

* *s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

ALL HANDWRITING MUST BE IN BLOCK CAPITALS **Page 1 of 1** 1303

OFF (L) × 26654 } 1/62688
(4) × 36935 }

Req:R279610 /Doc:CT 11493-081 CT /Rev:16-Dec-2010 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:03 /Seq:1 of 2
Ref:petersham /Src:T

11493081

NEW SOUTH WALES

CERTIFICATE OF TITLE
PROPERTY ACT, 1900.

Vol. 11493 Fol. 81

Appln. No.12688

Prior Title Vol.1490 Fol.230

Edition issued 5-1-1971

M55327

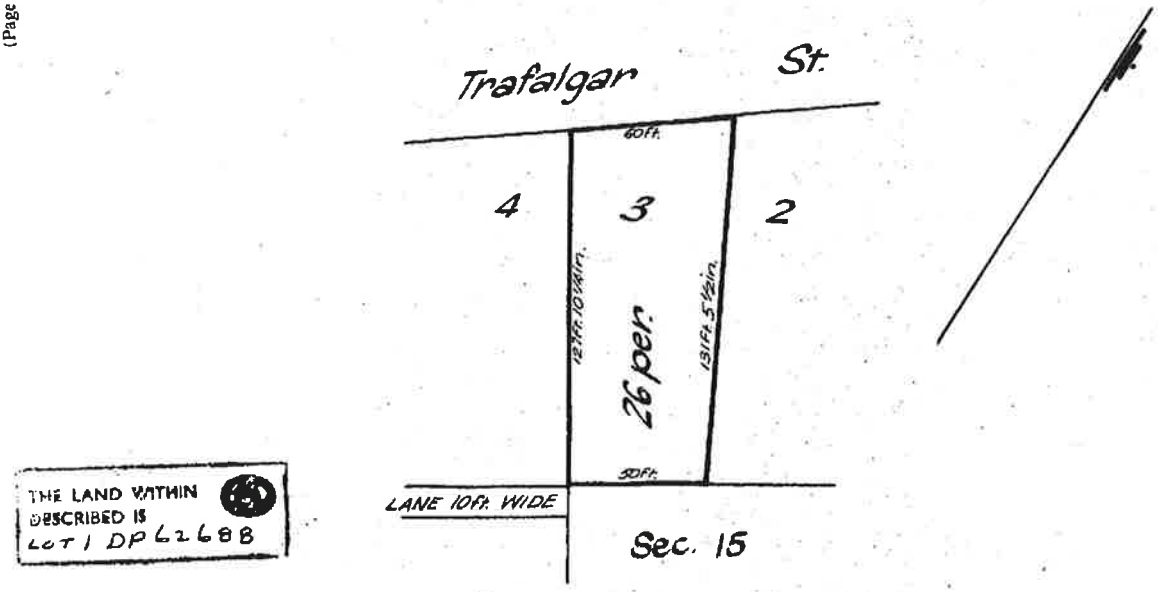
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED
Registrar General.

(Page 1) Vol. 11493 Fol. 81

PLAN SHOWING LOCATION OF LAND

SEE AUTO FOLIO



THE LAND WITHIN DESCRIBED IS LOT 1 DP 62688

M55327 Reg.

Scale: 50 feet to one inch

ESTATE AND LAND REFERRED TO

S Estate in Fee Simple in the land shown in plan lodged with Primary Application No.12688 (filed as F.P.62688) in the Municipality of Marrickville Parish of Petersham and County of Cumberland being part of 40 acres granted to Neil McKellar on 11-12-1794.

FIRST SCHEDULE

~~LEONARD CRAIG FOZZARD of Drummoyne, Company Manager and DAVID TERENCE PANCKHURST of Blakehurst, Solicitor as Joint Tenants.~~

SECOND SCHEDULE

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

Registrar General

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.

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

Req:R279610 /Doc:CT 11493-081 CT /Rev:16-Dec-2010 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:03 /Seq:2 of 2
Ref:petersham /Src:T

Vol. 11493 Fol 81

V. C. N. BLIGHT, GOVERNMENT PRINTER

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Fozzard Nominees Pty. Limited by Transfers W193553 and W193555. Registered 21-3-1986~~					
E.S. MCCallum Holdings Pty. Limited. ~~Registered 1-11-1988~~ by Transfer X947624. Registered 1-11-1988					

CANCELLED

M5532
M643700
Ex Lease M6437
P940503 Lease
4 CCL
(297-299 Trafalg
R521498 L
Ren
99C
~~500~~
DOES NOT AFFE
T379185 Lse
W193553 P
55 Tel
X266854 L
X358935 P
X947624 T

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Caveat~~	~~M55328~~	~~5-11-1970~~	~~by the Registrar General~~	~~[illegible]-1971~~		Withdrawn	X358935	
~~Lease~~	~~M643700~~	~~15-2-1972~~	~~to John White & Sons Pty. Limited~~	~~4-5-1972~~		Expired	2-11-1976.	
~~Lease~~	~~P940503~~	~~——~~	~~of premises known as Nos. 297-299 Trafalgar Street, Petersham to John While & Sons Pty. Limited. Date of Expiry 30-6-1979.~~	~~2-11-1976.~~		Expired	6-12-1979	
~~Lease~~	~~R521498~~	~~——~~	~~of premises known as Nos 297-299 Trafalgar Street, Petersham to John While & Sons Pty. Limited together with an option of renewal. Date of Expiry 30-6-1982~~	~~6-12-1979~~				
~~T379185~~	~~Lease to John While & Sons Pty. Limited of premises being Ground floor of Nos. 297-299 Trafalgar Street, Petersham together with option of renewal. Expires 30-6-1984. Registered 20-1-1983~~			~~6-12-1979~~		Expired	20-1-1983	
X266854 P	Lease to Cambridge Credit Corporation Limited of premises being the first and second floors together with a rights of ingress and egress over the corridor and stairway on the ground floor of the premises 297-299 Trafalgar Street, Petersham Expires 31-3-1989 Option of renewal 2 years Registered 17-12-1987					Expired	9-2-1988	
X358935 P	Lease to Nayford Pty. Limited of premises being ground floor of the premises 297-299 Trafalgar Street, Petersham Excepting the stairwell and entrance to second and third floor. Expires 18-10-1990. Option of renewal 3 years. Registered 9-2-1988.							

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

Req:R279767 /Doc:DL W193553 /Rev:02-Nov-2010 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:13 /Seq:1 of 5
Ref:petersham /Src:T

STAMP DUTY NEW SOUTH WALES DEPARTMENT OF FINANCE $1.00

W193553

TRANSFER

REAL PROPERTY ACT, 1900

(See Instructions for Completion on back of form

CHIEF COMMISSIONER

T AI 1 of 5 X

$ 33

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
See annexure hereto	WHOLE	

DESCRIPTION OF LAND Note (a)

TRANSFEROR Note (b)

LEONARD CRAIG FOZZARD of 48/84 St.Georges Crescent, Drummoyne, Company Manager, and DAVID TERENCE PANCKHURST of 280 Pitt Street, Sydney, Solicitor,

OFFICE USE ONLY N

ESTATE Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of $ See annexure hereto and transfers an estate in fee simple in the land above described to the TRANSFEREE

TRANSFEREE Note (b)

See annexure hereto

OFFICE USE ONLY HIST

TENANCY Note (d)

as joint tenants/tenants in common

PRIOR ENCUMBRANCES Note (e)

subject to the following PRIOR ENCUMBRANCES 1. See annexure hereto

2. 3.

DATE OF TRANSFER 17th October 1985

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (f)

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

R. M. Clarke
Signature of Witness

ANNA MARIA CLARKE
Name of Witness (BLOCK LETTERS)

280 Pitt St. Sydy Secretary
Address and occupation of Witness

D.T. Panckhurst.
Signature of Transferor

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

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

D.T. Panckhurst (D.T. PANCKHURST)
Signature of Transferee
Solicitor for Transferee

TO BE COMPLETED BY LODGING PARTY Notes (g) and (h)

LODGED BY
E.D. PANCKHURST & SON
SOLICITORS
280 PITT STREET, SYDNEY. 2000
DX 494 SYDNEY PHONE 264 6726
665S

Delivery Box Number

LOCATION OF DOCUMENTS

CT	OTHER	
		Herewith.
		In R.G.O. with
		Produced by

OFFICE USE ONLY

Extra Fee	Checked by	REGISTERED 21-3-1986
$165	KBB	Registrar General

OVER

MISC 17/2 60620B

Note (f) 1346-92 Wit Stamp Duty Accy 14/2.

CT. 05..9

Vol 9634 Fol 635

RP 13

INSTRUCTIONS FOR COMPLETION

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

Typewriting and handwriting should be clear, legible and in permanent black non-copying ink.

Alterations are not to be made by erasure; the words rejected are to be ruled through and initialled by the parties to the dealing.

If the space provided is insufficient, additional sheets of the same size and quality of paper and having the same margins as this form should be used. Each additional sheet must be identified as an annexure and signed by the parties and the attesting witnesses.

If it is intended to create easements, covenants, &c., use forms RP13A, RP13B, RP13C as appropriate.

Rule up all blanks.

The following instructions relate to the SIDE NOTES on the form.

(a) Description of land:
- (i) TORRENS TITLE REFERENCE. —Insert the current Folio Identifier or Volume and Folio of the Certificate of Title/Crown Grant for the land being transferred, e.g., 135/SP12345 or Vol. 8514 Fol. 126.
- (ii) PART/WHOLE.—If part only of the land in the folio of the Register is being transferred, delete the word "WHOLE" and insert the lot and plan number, portion, &c. See also sections 327 and 327AA of the Local Government Act, 1919.
- (iii) LOCATION.—Insert the locality shown on the Certificate of Title/Crown Grant, e.g., at Chullora. If the locality is not shown, insert the Parish and County, e.g., Ph. Lismore Co. Rous.

(b) Show the full name, address and occupation or description.

(c) If the estate being transferred is a lesser estate than an estate in fee simple, delete "fee simple" and insert appropriate estate.

(d) Delete if only one transferee. If more than one transferee, delete either "joint tenants" or "tenants in common", and, if the transferees hold as tenants in common, state the shares in which they hold.

(e) In the memorandum of prior encumbrances, state only the registered number of any mortgage, lease, charge or writ to which this dealing is subject.

(f) Execution:

GENERALLY
- (i) Should there be insufficient space for execution of this dealing, use an annexure sheet.
- (ii) The certificate of correctness under the Real Property Act, 1900, must be signed by all parties to the transfer, each party to execute the dealing in the presence of an adult witness, not being a party to the dealing, to whom he is personally known.
  The solicitor for the transferee may sign the certificate on behalf of the transferee, the solicitor's name (not that of his firm), to be typewritten or printed adjacent to his signature.
  Any person falsely or negligently certifying is liable to the penalties provided by section 117 of the Real Property Act, 1900.

ATTORNEY
- (iii) If the transfer is executed by an attorney for the transferor/transferee pursuant to a registered power of attorney, the form of attestation must set out the full name of the attorney, and the form of execution must indicate the source of his authority, e.g., "AB by his attorney (or receiver or delegate, as the case may be) XY pursuant to power of attorney registered Book No. , and I declare that I have no notice of the revocation of the said power of attorney".

AUTHORITY
- (iv) If the transfer is executed pursuant to an authority (other than specified in (iii)) the form of execution must indicate the statutory, judicial or other authority pursuant to which the transfer has been executed.

CORPORATION
- (v) If the transfer is executed by a corporation under seal, the form of execution should include a statement that the seal has been properly affixed, e.g., in accordance with the Articles of Association of the corporation. Each person attesting the affixing of the seal must state his position (e.g., director, secretary) in the corporation.

(g) Insert the name, postal address, Document Exchange reference, telephone number and delivery box number of the lodging party.

(h) The lodging party is to complete the LOCATION OF DOCUMENTS panel. Place a tick in the appropriate box to indicate the whereabouts of the Certificate of Title. List, in an abbreviated form, other documents lodged, e.g., stat. dec. for statutory declaration, pbte for probate, L/A. for letters of administration, &c.

OFFICE USE ONLY

DIRECTION: PROP

FIRST SCHEDULE DIRECTIONS

No. OF NAMES:

(A) FOLIO IDENTIFIER	(B) No.	(C) SHARE	(D)	(E) NAME AND DESCRIPTION

SECOND SCHEDULE & OTHER DIRECTIONS

(F) FOLIO IDENTIFIER (OR REGD. DEALING & FOLIO IDENTIFIER)	(G) DIRECTION	(H) NOTFN TYPE	(J) DEALING NUMBER	(K) DETAILS
2480-173 7190-110 7534-182 11493-81	OFF	R6X	MS5328-	

Req:R279767 /Doc:DL W193553 /Rev:02-Nov-2010 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:13 /Seq:2 of 5
Ref:petersham /Src:T

Annexure

This is the annexure to Transfer dated 17th October 1985 between LEONARD CRAIG FOZZARD and DAVID TERENCE PANCKHURST, as Transferors and LEONARD CRAIG FOZZARD, ROBERT ALEXANDER FOZZARD, VALERIE IRENE LAMBERT and FOZZARD NOMINEES PTY. LIMITED, as Transferees

DESCRIPTION OF LAND	Torrens Title	If Part Only, Delete Whole and Give Details	Location
	Volume 2241 Folio 141	Whole	Ph. Petersham Co. Cumberland
	~~and~~ ~~Volume 1346 Folio 82~~	~~part being Lots 2 & 3 Shepherds Estate~~	Ph. Petersham Co. Cumberland
	Volume 1346 Folio 82	~~part being Lot 1~~ WHOLE ~~Shepherds Estate~~	Ph. Petersham Co. Cumberland.
	Volume 11493 Folio 81	Whole	Ph. Petersham Co. Cumberland
	Volume 7180 Folio 110	Whole	Ph. Petersham Co. Cumberland
	Volume 2480 Folio 173	Whole	Ph. Petersham Co. Cumberland
	Volume 7534 Folio 182	Whole	Ph. Hunters Hill Co. Cumberland

ESTATE

The abovenamed TRANSFERORS pursuant to the provisions of the will of Allan Manning Fozzard deceased and pursuant to the Deed of Assignment/ transfers an estate in fee simple dated 18th December, 1975 in the land above described to the TRANSFEREES

TRANSFEREE

LEONARD CRAIG FOZZARD of 48/84 St. Georges Crescent, Drummoyne, Company Manager, ROBERT ALEXANDER FOZZARD of 9 Prince Edward Street, Gladesville, Aero Engineer, and VALERIE IRENE LAMBERT of 130 Barrier Reef Drive, Robina, Queensland, and FOZZARD NOMINEES PTY. in equal shares as tenants-in-common

PRIOR ENCUMBRANCES

Subject to the following PRIOR ENCUMBRANCES.

1. Lease No. V480167 as to whole of land in Certificate of Title Volume 2241 Folio 141
2. Lease No. V291044 as to part of the land in Certificate of Title Volume 1346 Folio 82
3. Lease No. V480167 as to part of land in Certificate of Title Volume 1346 Folio 82
4. Lease No. T379185 as to whole of land in Certificate of Title Volume 11493 Folio 81
5. Lease No. S 71590 as to whole of land in Certificate of Title Volume 7180 Folio 110
6. Lease No. R 521500 as to part of land in Certificate of Title Volume 2480 Folio 173
7. Lease No. S948146 as to part of land in Certificate of Title Volume 2480 Part 173
8. Lease No. S841615 as to whole of land in Certificate of Title Volume 7534 Folio 182

9. Mr. Lease No W 18 P 635

EXECUTION

A. Clarke
Signature of Witness

Ann Marie Clarke
Name of Witness

280 Pitt St. Sydney Secretary
Address and occupation of witness

D.T. Panckhurst
Signature of Transferors

D.T. Panckhurst (D.T. Panckhurst)
Signature of Transferees
Solicitor for Transferees

E. D. PANCKHURST & SON
SOLICITORS
280 PITT STREET, SYDNEY. 2000
DX 494 SYDNEY PHONE 264 6726
6658

Annexure

This is the annexure to Transfer dated 17th October 1985 between LEONARD CRAIG FOZZARD and DAVID TERENCE PANCKHURST, as Transferors, and LEONARD CRAIG FOZZARD, ROBERT ALEXANDER FOZZARD, VALERIE IRENE LAMBERT and FOZZARD NOMINEES PTY. LIMITED, as Transferees

EXECUTION

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

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

A. M. Clarke
.....
Signature of Witness

ANN MARIE CLARKE
.....
Name of Witness

280 Pitt St., Sydney. Secretary.
.....
Address and occupation of Witness

D.T. Panckhurst
.....
Signature of Transferors
17-10-1985

.....
Signature of Witness

.....
Name of Witness

.....
Address and occupation of Witness

THE COMMON SEAL of FOZZARD NOMINEES PTY. LIMITED was hereunto affixed in the presence of :

D.T. Panckhurst [D.T. PANCKHURST]
Signature of Transferors
Solicitor for Transferees

E. D. PANCKHURST & SON
SOLICITORS
280 PITT STREET, SYDNEY. 2000
DX 494 SYDNEY. PHONE 264 6726
665S

L & P Panckhurst
S/ 60620 B

Req:R279767 /Doc:DL W193553 /Rev:02-Nov-2010 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:13 /Seq:5 of 5
Ref:petersham /Src:T

Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
2/3/2016 2:03PM

FOLIO: 1/62688

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 11493 FOL 81

Recorded	Number	Type of Instrument	C.T. Issue
29/7/1989		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
26/8/1991		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
28/2/2015	AJ294894	CAVEAT	
31/3/2015	AJ366510	WITHDRAWAL OF CAVEAT	
15/7/2015	AJ627440	TRANSFER	
15/7/2015	AJ627441	MORTGAGE	
22/7/2015	AJ674303	DEPARTMENTAL DEALING	
23/7/2015	DP1208130	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

petersham PRINTED ON 2/3/2016

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

Legal Liaison Services

Legal Liaison Services hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/1208130

SEARCH DATE	TIME	EDITION NO	DATE
2/3/2016	2:01 PM	1	23/7/2015

LAND

LOT 1 IN DEPOSITED PLAN 1208130
AT PETERSHAM
LOCAL GOVERNMENT AREA MARRICKVILLE
PARISH OF PETERSHAM COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1208130

FIRST SCHEDULE

DEICORP PROJECTS PETERSHAM PTY LTD

SECOND SCHEDULE (3 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT, 1900. ENTERED 7-11-2006 AS REGARDS THE PART IN BK 3224 NO 219
3 AJ627441 MORTGAGE TO BANK OF SYDNEY LTD

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

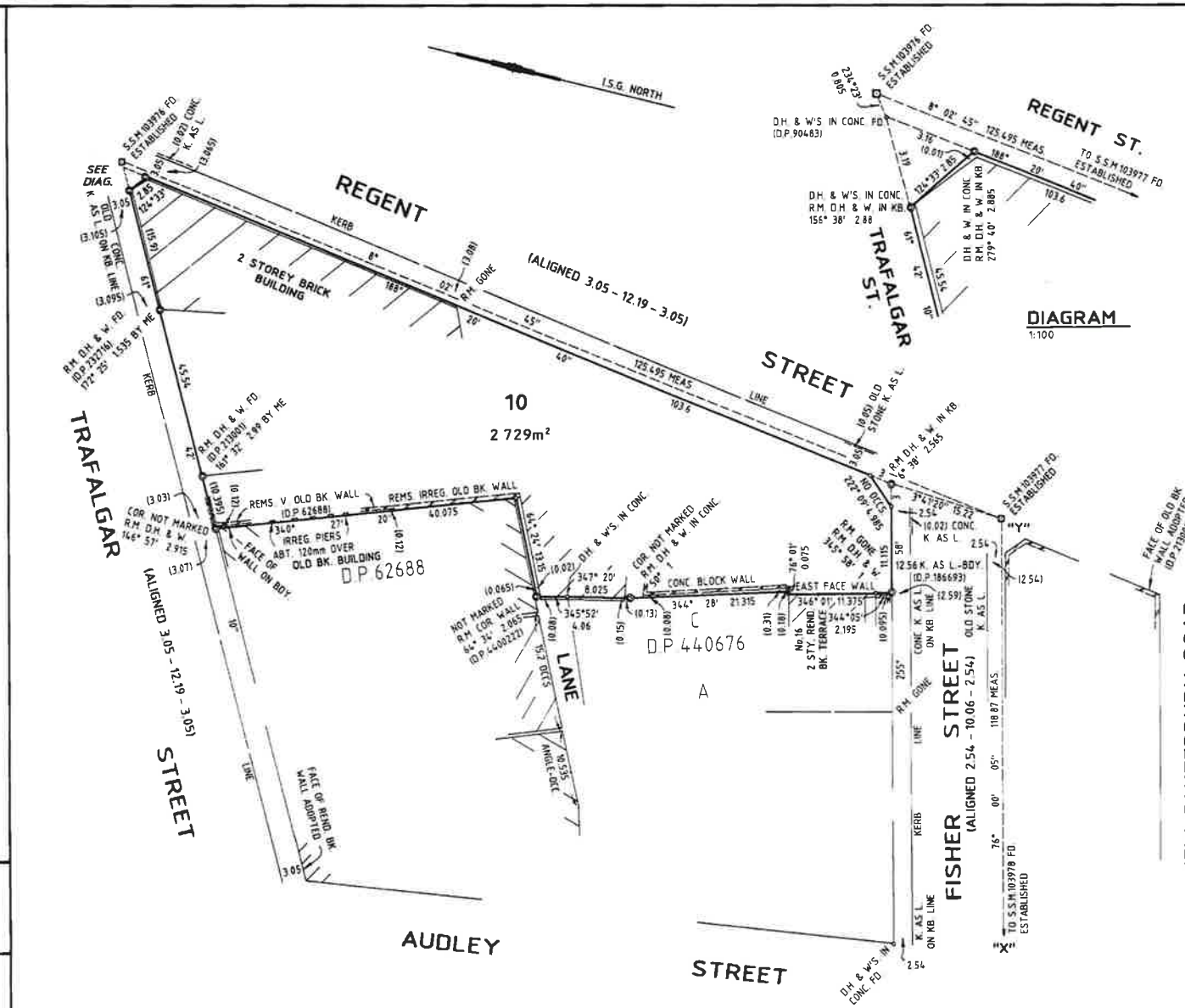
PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURE AND SEALS ONLY

DIRECTOR

SECRETARY



MARK	I.S.G. CO-ORDINATES		ZONE	ACC.
	EASTING	NORTHING		
S.S.M.103976	314 290.116	1 248 103.61	56	2
S.S.M.103977	314 272.56	1 247 979.358	56	2
S.S.M.103978	314 157.22	1 247 950.602	56	2
COMBINED SCALE FACTOR = 0.99996				

SOURCE: I.S.G. CO-ORDINATES OBTAINED FROM DEPARTMENT OF CONSERVATION & LAND MANAGEMENT SURVEY CONTROL INFORMATION MANAGEMENT SYSTEM 26TH JUNE, 1999.

Crown Lands Office Approval

PLAN APPROVED .....
Authorised Officer
Land District .....
Paper No. .....
Field Book ..... pages .....

Council's Certificate

I hereby certify that -
(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and
*(b) the requirements of ◆ Part 3 Division 2 of the Water Board Act 1987, or ◆ Part 5 Division 7 of the Hunter Water Board (Corporatisation) Act 1991,
have been complied with by the applicant in relation to the proposed .....
(insert "new road", "subdivision" or "consolidated lot" set out herein

Subdivision No. .....

Date .....

(Signature) .....
General Manager/Authorised Person

Council File No. .....

* This part of certificate to be deleted where the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Water Board and the Hunter Water Corporation Ltd.
◆ Delete if inapplicable

DP1004198

Registered: 30-7-1999

C.A: .....

Title System: TORRENS

Purpose: CONSOLIDATION

Ref. Map: PETERSHAM Sh. 7*

Last Plan: DP 90483, DP 186693, DP 213001* DP 232716, DP 440222

PLAN OF LOT 1 D.P.718453, LOT 1 D.P.213001, LOT 1 D.P.90483, LOT 1 D.P.440222, LOT 1 D.P.186693 & LOT 1 D.P.232716

Lengths are in metres. Reduction Ratio 1: 400

L.G.A.: MARRICKVILLE

Suburb/Locality: PETERSHAM

Parish: PETERSHAM

County: CUMBERLAND

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

I, GREGORY JON FRITH of P.W. RYDATE & WEST, SYDNEY a surveyor registered under the Surveyors Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 1996 and was compiled on 6TH JULY, 1999

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

(Signature) .....
Datum Line "X" - "Y" Surveyor registered under the Surveyors Act 1929
Zone: Suburban/Rural

Plans used in preparation of survey/compilation

D.P.718453, D.P.213001, D.P.90483, D.P.440222, D.P.186693, D.P.440676, D.P.62688, D.P.628460

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

SURVEYOR'S REFERENCE 67162 CHECKLIST REPORT

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Req:R279647 /Doc:DP 1004198 P /Rev:03-Aug-1999 /Sts:OK.OK /Pgs:ALL /Prt:02-Mar-2016 14:05 /Seq:1 of 1
Ref:pet /Src:T

Req:R280483 /Doc:PA 040483 PA /Rev:23-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:1 of 8
Ref:petersham /Src:T

MAY 21 11 23 1958

New South Wales.

No. 40483

APPLICATION TO BRING LANDS UNDER THE PROVISIONS OF THE REAL PROPERTY ACT, 1900.

FEE SIMPLE.[a]

CAUTION.—Applicants are reminded that by virtue of the provisions of the Crimes Act, 1900, the penalties of perjury are attached to a false declaration concerning any matter or procedure under the Act, and that the utmost care is therefore necessary in framing (or reading over, if the form be filled up by an Attorney) every particular statement herein.

It is further provided by Section 123 of the Real Property Act, 1900, that any applicant procuring a Certificate of Title by fraud, error, omission, misrepresentation, or misdescription will, notwithstanding the issue of such Certificate, remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulent procurement of any Certificate of Title, is declared guilty of a misdemeanor, and liable to a penalty not exceeding £500, or imprisonment not exceeding three years; and any Certificate thereby procured is rendered void as between all parties or privies to the fraud.

R.P. Fees:— s. d.
Judgment ...
Certificate ...
Advertising ...
Office Copy Plan ...
Total £ 4 0 0

R 8 15 5

Rec now Lodge Counterpart Rygate Plan 24/5/58 (Rec'ts.)

I[b] LLOYD CHARLES THORNTON the Sydney Manager for Electrolux Pty. Limited

do solemnly and sincerely declare, that Electrolux Pty. Limited[c] is seized for an Estate in fee simple of[d]

ALL THAT piece of land situate in the Municipality of Marrickville Parish of Petersham and County of Cumberland being an area of 18½ perches more particularly described in the plan of Survey by Messrs. P. W. Rygate & West lodged herewith

which land (including all improvements) is of the value of[e] Six thousand five hundred pounds

and no more, and is[f] part of[g] forty acres originally granted to[h] Neil McKellar by Crown grant, under the hand of the Governor of the Colony, dated the eleventh day of December 18- 1794; Sur Vol 2 P.149(2) Rd 4/6/58.

And I further declare, that I verily believe there does not exist any lease or agreement for lease of the said land, for any term exceeding a tenancy for one year, or from year to year,[k]

Also, that there does not exist any mortgage, lien, writ of execution, charge or encumbrance, will or settlement, or any deed or writing, contract, or dealing (other than such lease or tenancy as aforesaid), giving any right, claim, or interest in or to the said land, or any part thereof, to any other person than myself / ourselves[l]

and I further declare, that there is no person in possession or occupation of the said land or any part thereof adversely to my / our[m] Estate or Interest therein, and that the said land is now[n] vacant and unoccupied.

and that the owners and occupiers of adjacent lands are as follows[o]:—

State whether on North, South, East, or West.	Name.	State whether owner or occupier.	Address.
North	~~Trafalgar Street~~ C/o Mun of Marrickville		
South	Miss E. West	Owner & occupier	2 Regent Street, Petersham.
East	~~Regent Street~~		
West	Estate late W. H. Everitt	Owner	c/- 8 Spring Street, Sydney.
	Mr. W. S. Evans	Occupier	215 Trafalgar Street, Petersham.

L.C.T.

as above 3/1/59

Cert. of T., issued Vol. 8840 Fol. 239
Dated 2 FEB 1960

3335

N° 2257

---

a This form may be modified to suit the case of a leasehold title.

b Here state Christian and surname (or names) in full, with postal address and occupation.

c "I am" or if the declaration is made by an attorney "(1) of is" (as the case may be).

d Here give description of the property in full. If the land is shown on a plan lodged with the application or is fully described in a deed, it will be sufficient to insert a reference to the area, town, parish, and county and words indicating that the land is shown on the plan or described in the deed in question. The application may include an appurtenant easement expressly created by an instrument not registered under the Real Property Act, 1900 (see section 144). Unless the Registrar-General has previously dispensed with a plan of survey, an accurate plan, prepared and certified by a surveyor specially licensed under the Act, must accompany the application. If there be any rights of way or other rights or easements affecting the premises the particulars should be stated. If the space for description be insufficient, it may be continued by annexure, which must however be identified as part of the declaration, by memorandum signed by the declarant and attesting officer.

e The full improved value should be stated.

f State whether "the whole" or "part."

g Insert allotment with reference to number and section on plan, if any, or if not, number of acres granted. Name of Grantee.

h If there be any, add the words "except as follows" and insert particulars thereof.

i If there be any mortgage, lien, etc., add the words "except as follows" and insert particulars thereof.

k Insert "unoccupied," or "in the occupation of" adding names and addresses of tenants in full. State also nature of tenancy, if not under some lease before mentioned. When the applicant is not in actual occupation, but has a caretaker or manager in occupation, the name of such caretaker or manager should be stated, together with the nature of his occupancy.

m Here insert names and residences of adjacent owners and occupiers on all sides.

Req:R280483 /Doc:PA 040483 PA /Rev:23-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:4 of 8
Ref:petersham /Src:T

And I/we further declare, that the annexed Schedule, to which my/our signature is/are affixed, and which is to be taken as part of this Declaration, contains a full and correct list [o] from the 22nd May 1899 of all settlements, deeds, documents, or instruments, maps, plans and papers relating to the land comprised in this application, so far as I/we have any means of ascertaining the same, distinguishing such as being in my/our possession or under my/our control, are herewith lodged and indicating where or with whom, so far as known to me/us, any others thereof are deposited. Also, that there does not exist any fact or circumstance whatever material to the title, which is not hereby fully and fairly disclosed to the utmost extent of my/our knowledge, information, and belief; and that there is not, to my/our knowledge and belief, any action or suit pending affecting the said land, nor any person who has or claims any estate, right, title or interest therein, or in any part thereof, otherwise than by virtue and to the extent of some lease or tenancy hereby fully disclosed [p]

And I/we make this solemn Declaration, conscientiously believing the same to be true.

DATED at Sydney this 19th day of March 1959.

(RULE UP ALL BLANKS BEFORE SIGNING.)

Made and subscribed by the abovenamed ALFRED LACHLAN POOLE this 19th day of March 1959 [c] in the presence of [r]

Signature of Applicant

To the Registrar-General,—

I/we—ALFRED LACHLAN POOLE

the above declarant, do hereby apply to have the land described in the above declaration brought under the provisions of the Real Property Act, and request you to issue the Certificate of Title in the name of [s] Electrolux Pty.Limited.

DATED at Sydney this 19th day of March 1959

Witness to Signature—

(Signature of Applicant)

*N.B.—The Schedule below and Certificate indorsed on fourth page should be also signed.

In no case can any alterations, however trifling, be allowed to be made after the application has been once declared, unless all the parties re-sign and re-declare the same. If it is discovered that any alterations are necessary, the applicant may make a statutory declaration setting out in what manner he desires the application to be altered, which declaration will then (unless the Registrar General considers that a fresh application ought to be made) be read as one with the application.

(RULE UP ALL BLANKS BEFORE SIGNING.)

[o] The declaration may be qualified to the extent to which Applicant's title has been previously passed by the Registrar General by inserting the words "Commencing with Conveyance dated ..... registered ....." or as the case may be. Otherwise all documents from the Crown Grant onwards must be entered in the Schedule.

[p] If there be any exceptions add the words "except as follows" and insert necessary particulars.

[c] If made in New South Wales this declaration must be attested by the Registrar General or Deputy, or by a Notary Public, or by a Justice of the Peace, or Commissioner for Affidavits. If made outside the State it should be made according to the law of the State where made, before a person authorised by that law to take declarations. If the signature be by mark, the attestation must state that the document was read over to the declarant, and that he appeared fully to understand the contents. This applies also to the subjoined direction, particularly if a different person be nominated to receive certificate.

[s] If to Applicant, say "myself"; if to other person write name at full length, with postal address and occupation. If to two or more, state whether as joint tenants or tenants in common; if as tenants in common state shares. If to an infant, the age should be stated, and verified by Certificate of Birth, or by Statutory Declaration. If to a married woman, the name of the husband together with his postal address and occupation, should be stated.

SCHEDULE REFERRED TO.*

(TO BE SIGNED BY APPLICANT IMMEDIATELY BELOW THE LAST DOCUMENT SCHEDULED.)

To include not only Title Deeds, Probates, Letters of Administration, etc., but also the Surveyor's Plan or Statement in lieu thereof.

* For the particulars with which this Schedule must comprise, see concluding part of Declaration, to which particular attention is directed, as any omission or mis-statement will render applicant liable to the penalties of false declaration.

No.	Date.	Nature of Instrument.	Parties.	Registration. Book.	Registration. No.	For Office use only. By whom Produced.
1.	22/5/1899	Conveyance, C. O. Grill to J. S. Darton		642	793	
2.	22/5/1899	Mortgage, J. S. Darton to Bank of Australasia		642	794	
3.	6/2/1900	Discharge of above Mortgage endorsed thereon dated 6/2/1900		659	261	lodged herewith.
4.	9/5/1904	Conveyance, J. S. Darton to C. Chapman		758	266	
5.	18/5/1904	Contract, C. Chapman to L. A. Ritchie (Stamp duty 1/- and fine paid).				
6.	19/8/1908	Probate of Will of C. Chapman, No.43502.				
7.	9/5/1913	Contract, L. A. Ritchie to Samuel Ritchie (Stamp duty 1/- and fine paid).				

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

St 7257—2

SCHEDULE REFERRED TO—(*continued*).*

(TO BE SIGNED BY APPLICANT, IF UTILISED, IMMEDIATELY BELOW THE LAST DOCUMENT SCHEDULED.)

No.	Date.	Nature of Instrument.	Parties.	Registration. Book.	Registration. No.	For Office use only. By whom Produced.
8.	24/1/1918	Conveyance,	S. Ritchie, 1st part, L.A. Ritchie, 2nd part, W. Russell, 3rd Part, S. Ritchie, 4th part.	1121	358	
9.	10/3/1930 22/4/1941	Mortgage,	S. Ritchie to F. R. Rooke discharged endorsed thereon	1594 1892	525 123	
10.	8/3/1933	Agreement	for Variation of Mortgage	1594	525	
11.	16/8/1940	Decree	of Supreme Court of New South Wales in Equity in Suit No.804 of 1940,	2427	223	
12.	18/4/1941	Mortgage,	Samuel Ritchie to J.S.C. Johnston and another discharge endorsed dated 18th December 1957, and registration copy of discharge.			
13.	24/6/1944	Agreement	for Extension of Mortgage, E. S. Ritchie with J.S.C. Johnston and another	1948	974	lodged herewith.
14.	5/9/1947	Agreement	for Extension of Mortgage, E.S. & H. C. Ritchie with J. S. C. Johnston and another	2030	446	
15.	31/8/1956	Agreement	for Extension and Reduction of Mortgage, H.S. Ritchie & Others with J.S.C. Johnston,	2380	589	
16.	18/12/1957	Conveyance,	H. C. Ritchie & others to Electrolux Pty. Limited.	2442	156	
17.	5/12/1957	Statutory	Declaration of H. C. Ritchie with Certificate of Death of E. S. Ritchie annexed			
18.		Survey	Plan of Survey by Messrs. P. W. Rygate & West			
19.		Abstract				
20.		Abstract				
21.	2/2/1959	Statutory	Declaration by K. J. Thurlow			Letter 59/8256 6/2/1959
22.	5/12/1957	Statutory	Declaration by H. G. Ritchie and annexure "A"			
23.	28/1/1959	Statutory	Declaration by H. G. Ritchie			
24.	20/7/1956	Appointment	of Additional Trustee. H. C. Ritchie with P.W. Ritchie	2378	51	Letter 59/6819 6/2/1959
25.	13/4/1945	Appointment	of New Trustee E. S. Ritchie with H.C.Ritchie	1962	9	

See schedule of original R.P. Appen.

Docs 1 – 16, 17 – 26, 28 – 31 herewith

Docs 6, 11, 19, 20 & 29 are available to Messrs Arnott & Poole

Docs 24 & 25 are available to Messrs Shorter & Tolin

Other docs to remain.

16/2/60

Received documents 24 & 25
R H Shorter & Tolin
Per D Morris 7/3/60

☞ See indorsement overleaf.

Ref:petersham /Src:T
Req:R280483 /Doc:PA 040483 PA /Rev:23-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:5 of 8

SCHEDULE REFERRED TO—(*continued*).*

(TO BE SIGNED BY APPLICANT, IF UTILISED, IMMEDIATELY BELOW THE LAST DOCUMENT SCHEDULED.)

No.	Date.	Nature of Instrument.	Parties.	Registration. Book.	Registration. No.	For Office use only. By whom Lodged.
8.	24/1/1918	Conveyance,	S. Ritchie, 1st part, L. A. Ritchie, 2nd part, W. Russell, 3nd Part, S. Ritchie, 4th part.	1121	358	
9.	10/3/1930 22/4/1941	Mortgage,	S. Ritchie to F. R. Rooke discharge endorsed thereon	1594 1892	525 123	
10.	8/3/1933	Agreement	for Variation of Mortgage	1594	525	
11.	16/8/1940	Decree of	Supreme Court of New South Wales in Equity in Suit No.804 of 1940,	2427	223	
12.	18/4/1941	Mortgage,	Samuel Ritchie to J.S.C. Johnston and another discharge endorsed dated 18th December 1957, and registration copy of discharge.	1892	124	lodged herewith.
13.	24/6/1944	Agreement	for Extension of Mortgage, E. S. Ritchie with J.S.C. Johnston and another	1948	974	
14.	5/9/1947	Agreement	for Extension of Mortgage, E.S. & H. C. Ritchie with J.S. C. Johnston and another	2030	446	
15.	31/8/1956	Agreement	for Extension and Reduction of Mortgage, H. S. Ritchie & others with J.S.C. Johnston,	2380	589	
16.	18/12/1957	Conveyance,	H. C. Ritchie & others to Electrolux Pty. Limited.	2442	156	
17.	5/12/1957	Statutory Declaration of	H. C. Ritchie with Certificate of Death of E. S. Ritchie annexed.			
18.		Survey	Plan of Survey by Messrs. P. W. Rygate & West			
19.						
20.						

Read docs 1 to 16 & 19

Recd 1, 16, 16 a 19 to 20

21. 2-2-59 Stat. Decln. by H. J. Thurlow. — 2323/4 — letter 59/3250 6-2-59

22. 5-12-57 " " H. C. Ritchie & annexure "A"

23. 20-1-59 " " "

24. 20-2-59 Appointment of new Additional Trustee. H. C. Ritchie with P. A. Ritchie — 2378 — 51 — letter 59/6819 6-2-59

25. 13-4-45 " new Trustee E. S. Ritchie with H. C. Ritchie — 1962 — 9

26. 2-3-59 Stat. Decln. by H. J. Thurlow.

27. 24-2-59 " " " " Plan detached (Plan 1865) — docs. 24/2/59

28. 19-3-59 " " " A. L. Poole. — letter 59/23030 26-3-59

29. 16-3-59 Power of Attorney Electrolux Pty. Ltd. to A. L. Poole reg. 59/779

30. Copy of R.P.A. 40 of 53. Supplementary Appn

31. 3-2-59

31. 20-1-60 Statutory Decln of A. L. Poole.

☞ See Indorsement overleaf.

Required docs. 6, 11, 19, 29 & 31 Clerk 24/2/60

Does schedule or endorsement Trans. Title

Req:R280483 /Doc:PA 040483 PA /Rev:23-Jun-2015 /Sis:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:7 of 8/
Ref:peterskam /Src:T

Req:R280607 /Doc:PA 045543 PA /Rev:22-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 15:08 /Seq:1 of 4
Ref:petersham /Src:T

R.P. 2. Dec. 6. FEES:— £ s. d

No. 45543

New South Wales.

APPLICATION TO BRING LANDS UNDER THE PROVISIONS OF THE REAL PROPERTY ACT, 1900.

FEE SIMPLE. [a]

Lodgment $8-00
Certificate — : :
Advertising — : :
Office Copy — : :
Plan — : :
Total $8-00

CAUTION.—Applicants are reminded that by virtue of the provisions of the Crimes Act, 1900, the penalties of perjury are attached to a false declaration concerning any matter or procedure under the Act, and that the utmost care is therefore necessary in framing (or reading over, if the form be filled up by an Attorney) every particular statement herein.

It is further provided by Section 128 of the Real Property Act, 1900, that any applicant procuring a Certificate through any fraud, error, omission, misrepresentation, or misdescription will, notwithstanding the issue of such Certificate remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulent procurement of any Certificate of Title, is declared guilty of a misdemeanour, and liable to a penalty not exceeding £500, or imprisonment not exceeding three years; and any Certificate thereby procured is rendered void as between all parties or privies to the fraud.

I [b] PETER WILLIAM O'NEILL of 9-11 Hunter Street, Sydney

do solemnly and sincerely declare, that [c] Electrolux Pty. Ltd. seized for an Estate in fee simple of [d]

all the piece or parcel of land situate in the Municipality of Marrickville Parish of Petersham and County of Cumberland containing an area of 14¼ perches more particularly described in the Plan of Survey prepared by Frank M. Mason & Co., and lodged herewith.

which land (including all improvements) [illegible]

and no more, is [f] part of [g] forty acres originally granted to [h] NEIL McKELLAR by Crown grant, under the hand of the Governor of the Colony, dated the eleventh day of December, xx 1794

And I/[illegible] further declare, that I/[illegible] verily believe there does not exist any lease or agreement for lease of the said land for any term exceeding a tenancy for one year, or from year to year,[k]

Also, that there does not exist any mortgage, lien, writ of execution, charge or encumbrance, will or settlement, or any deed or writing, contract, or dealing [illegible], giving any right, claim, or interest in or to the said land, or any part thereof, to any other person than myself/[illegible]

and I/[illegible] further declare, that there is no person in possession or occupation of the said land or any part thereof adversely to my/[illegible] Estate or Interest therein, and that the said land is now vacant and unoccupied.

and that the owners and occupiers of adjacent lands are as follows [n]:—

State whether on North, South, East, or West.	Name.	State whether owner or occupier.	Address.
North	~~Trafalgar Street~~		
~~East~~	~~Electrolux Pty. Ltd.~~	owner and occupier	Cnr. Regent and Trafalgar Sts. Petersham.
South	Torlec Pty. Ltd.	owner	33 Dorset Road, Northbridge
~~West~~	~~Torlec Pty. Ltd.~~	~~owner~~	~~33 Dorset Road, Northbridge~~

Cert. of T., issued Vol. 10658 Fol. 92
Dated 9 OCT 1967

D16680

SER. 1 PAGE 139(2)
1 sh = 38/-

30/3/67

a This form may be modified to suit the case of a leasehold title.

b Here state Christian and surname (or names) in full with postal address and occupation.

c "I am" or if the declaration is made by an attorney "C.D. of [illegible]" (as the case may be).

d Here give description of the property in full. If the land is shown on a plan lodged with the application or is fully described in a deed, it will be sufficient to insert a reference to the area, town, parish, and county and words indicating that the land is shown on the plan or described in the deed in question. The application may include an appurtenant easement expressly created by an instrument not registered under the Real Property Act, 1900 (see section 14A). Unless the Registrar-General has previously dispensed with a plan of survey, an accurate plan, prepared and certified by a surveyor registered under the Surveyors Act, must accompany the application. If there be any rights of way or other rights or easements affecting the premises the particulars should be stated. If the space for description be insufficient, it may be completed by annexure which must however be identified as part of the declaration, by memorandum signed by the declarant and attesting officer.

e The full improved value should be stated.

f State whether "the whole" or "part."

g Insert allotment with reference to number and section on plan, if any, or if not, number of acres granted.

h Name of Grantee.

k If there be any Lease, add the words "except as follows" and insert particulars thereof.

l If there be any mortgage, lien, etc., add the words "except as follows" and insert particulars thereof.

m Insert "unoccupied" or "in the occupation of" adding names and addresses of tenants in full. State also nature of tenancy, if not under some lease before mentioned. When the applicant is not in actual occupation, but has a caretaker or manager in occupation, the name of such caretaker or manager should be stated, together with the nature of his occupancy.

n Here insert names and residences of adjacent owners and occupiers on all sides.

o The declaration may be qualified to the extent to which Applicant's title has been previously passed by the Registrar-General by inserting the words "Commencing with Conveyance dated ..... registered ....." or as the case may be. Otherwise all documents *from the Crown Grant* onwards must be entered in the Schedule.

p If there be any exception add the words "except as follows" and insert necessary particulars.

r If made in New South Wales this declaration must be attested by the Registrar-General or Deputy, or by a Notary Public, or by a Justice of the Peace, or Commissioner for Affidavits. If made outside the State it should be made according to the law of the State where made, before a person authorized by that law to take declarations. If the signature be by mark, the attestation must state that the document was read over to the declarant, and that he appeared fully to understand the contents. This applies also to the subjoined direction, particularly if a different person be nominated to receive certificate.

s If to Applicant, say "myself"; if to other person write name at full length, with postal address and occupation. If to two or more, state whether as joint tenants or tenants in common; if as tenants in common state shares. If to an infant, the age should be stated, and verified by Certificate of Birth, or by Statutory Declaration. If to a married woman, the name of the husband together with his postal address and occupation, should be stated.

And I/~~We~~ further declare, that the annexed Schedule, to which my/~~our~~ signature is/~~are~~ affixed, and which is to be taken as part of this Declaration, contains a full and correct list o from the sixteenth of February, 1900 of all settlements, deeds, documents, or instruments, maps, plans and papers relating to the land comprised in this application, so far as I/~~we~~ have any means of ascertaining the same, distinguishing such as being in my/~~our~~ possession or under my/~~our~~ control, are herewith lodged and indicating where or with whom, so far as known to me/~~us~~, any others thereof are deposited. Also, that there does not exist any fact or circumstance whatever material to the title, which is not hereby fully and fairly disclosed to the utmost extent of my/~~our~~ knowledge, information, and belief: and that there is not, to my/~~our~~ knowledge and belief, any action or suit pending affecting the said land, nor any person who has or claims any estate, right, title or interest therein, or in any part thereof, otherwise than by virtue and to the extent of some lease or tenancy hereby fully disclosed p

And I/~~We~~ make this solemn Declaration, conscientiously believing the same to be true.

DATED at Sydney this 17th day of March 1967.

(RULE UP ALL BLANKS BEFORE SIGNING.)

Made and subscribed by the abovenamed PETER WILLIAM O'NEILL this 17th day of March 1967 in the presence of r

P. H. Pitcher J.P.

Signature of Applicant P O'Neill

To the Registrar-General,—

I/~~We~~ PETER WILLIAM O'NEILL the above declarant, do hereby apply to have the land described in the above declaration brought under the provisions of the Real Property Act, and request you to issue the Certificate of Title in the name of s Electrolux Pty. Limited

DATED at Sydney this 17th day of March 1967.

Witness to Signature—

P. H. Pitcher J.P.

(*Signature of Applicant*) P O'Neill

*N.B.—The Schedule below and Certificate indorsed on fourth page should be also signed.

In no case can any alterations, however trifling, be allowed to be made after the application has been once declared, unless all the parties re-sign and re-declare the same. If it is discovered that any alterations are necessary, the applicant may make a statutory declaration setting out in what manner he desires the application to be altered, which declaration will then (unless the Registrar General considers that a fresh application ought to be made) be read as one with the application.

(RULE UP ALL BLANKS BEFORE SIGNING.)

SCHEDULE REFERRED TO.*

(TO BE SIGNED BY APPLICANT IMMEDIATELY BELOW THE LAST DOCUMENT SCHEDULED.)

To include not only Title Deeds, Probates, Letters of Administration, etc., but also the Surveyor's Plan or Statement in lieu thereof.

* For the particulars with which this Schedule must comprise, see concluding part of Declaration, to which particular attention is directed, as any omission or mis-statement will render applicant liable to the penalties of false declaration.

No.	Date.	Nature of Instrument.	Parties.	Registration. Book.	Registration. No.	For Office use only. By whom Produced.
1.	16/2/1900	Conveyance	CATHERINE OATES GRILL and HENRY MAUGHAN	658	258	D.D. 7998
2.	9/12/1925	Indenture (a.h.J.)	EARNEST JOHNS PAYNE, ISABEL MOORE, HENRY MAUGHAN MOORE, VIDA ISABEL JORDAN, EILY BESSIE INGLE WINIFRED FRANCES JACKSON, ELIZA CORAL OLESEN NELLIE KATHLEEN KING. to Public Trustee (new Tee.)	1429	664	S.D. 7998
3.	10/4/1929	Mortgage	PUBLIC TRUSTEE and ~~ALICE EVA DANIEL~~ FLORENCE GEORGINA COLE	1553	786	D.D. 7998
4.	3/10/1929	Mortgage	PUBLIC TRUSTEE and ALICE EVA DANIEL D/m	1577	876	DD 7998
5.	24/6/1932	Mortgage	PUBLIC TRUSTEE and FLORENCE GEORGINA COLE D/m	1643	438	"
			D/m	1917	281	"

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

S1 7257—2

Req:R280492 /Doc:CT 10658-092 CT /Rev:23-Feb-2011 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:1 of 2
Ref:petersham /Src:T

[redacted]CATE OF TITLE

NEW SOUTH WALES [redacted]TY ACT, 1900, as amended.

Application No. 45543

ID

Vol. 10658 Fol. 92

Edition issued 9-10-1967

CANCELLED

SEE AUTO FOLIO

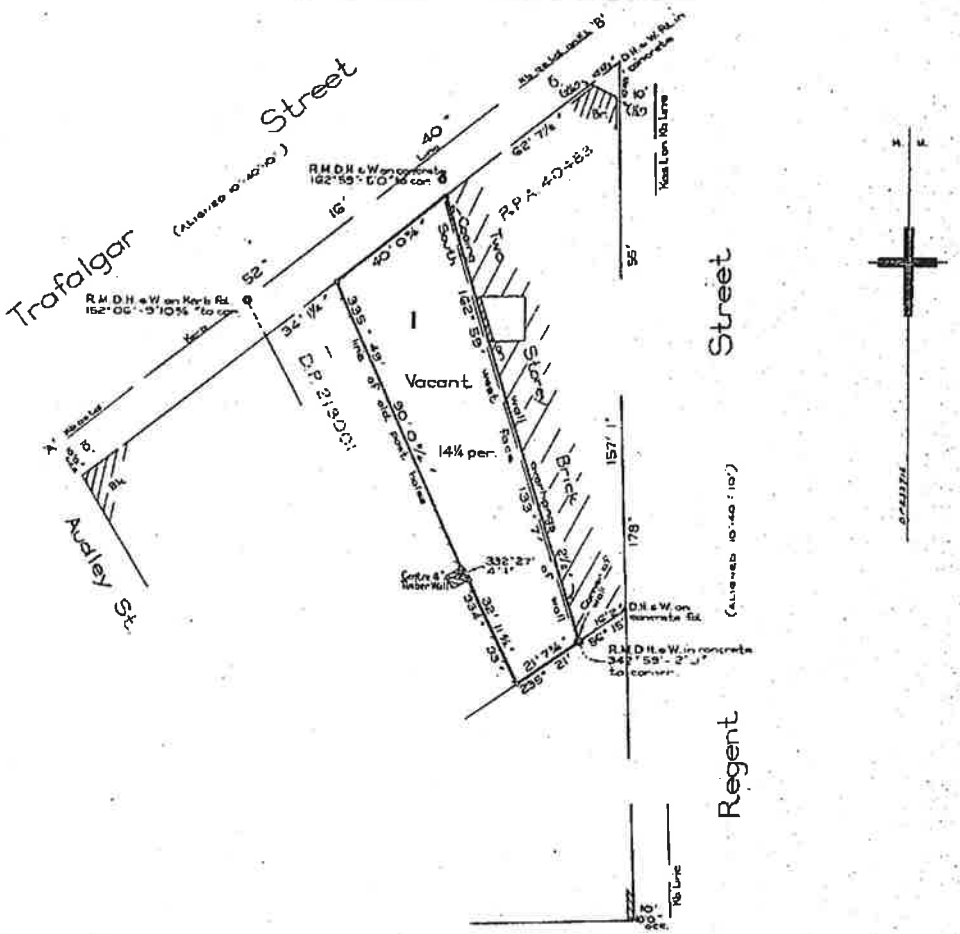
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness J. Gilfillick.

Registrar General.

(Page 1) Vol. 10658 Fol. 92

PLAN SHOWING LOCATION OF LAND



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 232716 at Petersham in the Municipality of Marrickville, Parish of Petersham and County of Cumberland being part of 40 acres granted to Neil McKellar on 11-12-1794.

FIRST SCHEDULE (continued overleaf)

~~ELECTROLUX PTY. LIMITED.~~

SECOND SCHEDULE (continued overleaf)

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

Registrar General

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

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

Req:R280492 /Doc:CT 10658-092 CT /Rev:23-Feb-2011 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 14:59 /Seq:2 of 2
Ref:petersham /Src:TE

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

R488 01

X175648 49

Vol. 10658 Fol 92

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
Radio and General Agencies Pty Limited	Transfer	R488068	—	24-10-1979	[signature]

CANCELLED

SEE AUTO FOLIO

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
Mortgage	R488069	—	to Australia and New Zealand Banking Group Limited	24-10-1979	[signature]	Discharged	X175648	[signature]
ME X175649	Mortgage to Commonwealth Bank of Australia. Registered 5.11.1987				[signature]			

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

Req:R280625 /Doc:PA 042592 PA /Rev:23-Jun-2015 /Sts:OK.SC /Pgs:ALL /Prt:02-Mar-2016 15:09 /Seq:1 of 4
Ref:petersham /Src:T

No. 42592

R.P. 2.

New South Wales.

APPLICATION TO BRING LANDS UNDER THE PR... THE REAL PROPERTY ACT, 1900.

FEE SIMPLE.

ONE POUND TEN SHILLINGS STAMP DUTY

Fees: 21 4 36 1964
Lodgment
Certificate
Advertising
Office Copy
Plan
Total 1 2 10

CAUTION.—Applicants are reminded that by virtue of the provisions of the Crimes ... of perjury are attached to a false declaration concerning any matter or procedure ... and that the utmost care is therefore necessary in framing (or reading over, if the form be ... Attorney) every particular statement herein.

It is further provided by Section 126 of the Real Property Act, 1900, that any applicant procuring a Certificate through any fraud, error, omission, misrepresentation, or misdescription will, notwithstanding the issue of such Certificate remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulent procurement of any Certificate of Title, is declared guilty of a misdemeanour, and liable to a penalty not exceeding £500, or imprisonment not exceeding three years; and any Certificate thereby procured is rendered void as between all parties or privies to the fraud.

[a] This form may be modified to suit the case of a leasehold title.

[b] Here state Christian and surname (or names) in full with postal address and occupation.

[c] "I am" or if the declaration is made by an attorney "C.D. of ... in" (as the case may be).

[d] Here give description of the property in full. If the land is shown on a plan lodged with the application or is fully described in a deed, it will be sufficient to insert a reference to the area, town, parish, and county and words indicating that the land is shown on the plan or described in the deed in question. The application may include an appurtenant easement expressly created by an instrument not registered under the Real Property Act, 1900 (see section 14A).
Unless the Registrar-General has previously dispensed with a plan of survey, an accurate plan, prepared and certified by a surveyor registered under the Surveyors Act, must accompany the application.
If there be any rights of way or other rights or easements affecting the premises the particulars should be stated.
If the space for description be insufficient, it may be completed by annexure which must however be identified as part of the declaration, by memorandum signed by the declarant and attesting officer.

[e] The full improved value should be stated.

[f] State whether "the whole" or "part."

[g] Insert allotment with reference to number and section on plan, if any, or if not, number of acres granted.

[h] Name of Grantee.

[k] If there be any Lease, add the words "except as follows" and insert particulars thereof.

[l] If there be any mortgage, lien, etc., add the words "except as follows" and insert particulars thereof.

[m] Insert "unoccupied" or "in the occupation of" adding names and addresses of tenants in full. State also nature of tenancy, if not under some lease before mentioned.
When the applicant is not in actual occupation, but has a caretaker or manager in occupation, the name of such caretaker or manager should be stated, together with the nature of his occupancy.

[n] Here insert names and residences of adjacent owners and occupiers on all sides.

I/[b] THELMA IRENE WILSON of 295 Trafalgar Street Petersham

WE Wife of Edward Wilson labourer

do solemnly and sincerely declare, that [c] I am seized for an Estate in fee simple of [d]

that piece of land containing fifteen & one half perches or thereabouts situate in the Parish of Petersham County of Cumberland and Municipality of Marrickville as shown in the plan of Mr. Surveyor Hunter dated 8th February, 1962 lodged with this application ~~together with ... and ... thereto ... with or without ... and ... to drive ... over ... and ... and ... as ... on the said plan~~

which land (including all improvements) is of the value of [e] Three thousand four hundred pounds ($3400)

and no more, is [f] part of [g] forty acres originally granted to [h] Neil McKellar by Crown grant, under the hand of the Governor of the Colony, dated the Eleventh day of December, 1794 Ser 1. Vo. 2 p. 149 (2)

And I/~~we~~ further declare, that I/~~we~~ verily believe there does not exist any lease or agreement for lease of the said land for any term exceeding a tenancy for one year, or from year to year,[k]

Also, that there does not exist any mortgage, lien, writ of execution, charge or encumbrance, will or settlement, or any deed or writing, contract, or dealing (other than such lease or tenancy as aforesaid), giving any right, claim, or interest in or to the said land, or any part thereof, to any other person than myself~~ourselves~~.[l]

and I/~~we~~ further declare, that there is no person in possession or occupation of the said land or any part thereof adversely to my/~~our~~ Estate or Interest therein, and that the said land is now [m] in the occupation of myself this Declarant

and that the owners and occupiers of adjacent lands are as follows [n]:—

	State whether on North, South, East, or West.	Name.	State whether owner or occupier.	Address.
1		COUNCIL		
2	West	Mrs. Phyllis Bell MacDonald	Both	295 Trafalgar Street, Petersham (Ref. Book 1869 No. 937)
3	East	Mr. ~~Stewart~~ EDWARD STUART CHARLES Evans MRS FAITH PATRICIA EVANS	Occupiers — Special Q 12	291 Trafalgar Street, Petersham (Ref. Book 1866 No. 299)
4		Thomas Urich Agst (Executor of Inte Walter Henry Everitt)	Owner	8 Spring Street, Sydney
5	South	~~Miss~~ Edith West	Both	2 Regent Street, Petersham (Ref. Volume 7777 Folio 25)
6	North of Right of Way.	Electrolux Pty. Limited	Both	289 Trafalgar Street, Petersham (Ref. Volume 7840 Folio 239)
7		Miss Lillian Florence Leslie as executrix of the will of William Thomas Leslie		Cert. of T., issued Vol. 9666 Fol. 162 and Pembroke St Ashfield

APR 1964 APR 1964

6885 B

The Boy Grove's A
6885

I certify that the within application is correct for the purposes of the Real Property Act, 1900.†

[Section 11 requires that this Certificate be signed by Applicant or his Solicitor and renders liable any person falsely or negligently certifying, to a penalty not exceeding £50; also, to damages recoverable by parties injured.
If by Solicitor, he should insert:—"And that I am the Solicitor of the within-named Applicant," and should add his own address, to his signature. The signature should be that of the Solicitor himself and not of his firm.

(Signature) L. G. Wilson

(RULE UP ALL BLANKS BEFORE SIGNING, EXCEPT SPACE IN SCHEDULE BELOW APPLICANT'S SIGNATURE.)

FEES.

DP213001

	£	s.	d.
Certificate of Title	2	10	0
Office Copy of Plan (when a Plan is furnished)	1	0	0
Preparation of Plan (when a Plan is not furnished)	1	0	0
Advertisement, unless dispensed with	3	0	0
Lodgment fee	1	0	0

15½ pcs

Doct 2, 7, 14, 5, 67
21, 22, 24
Act D/11

☞ State to whom all correspondence relating to this Application should be sent, with address, as under, viz.:—

EXTRA FEES
Rent

CP 369
Expiry

Name McCoy Grove v Atkinson

Occupation

Post Town

15

St 7257—4 V. C. N. Blight, Government Printer

RP 13 STAMP DUTY

X508803

TRANSFER

REAL PROPERTY ACT, 1900

T 3 3 of 4 X

$ 39

R3/4

	Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
DESCRIPTION OF LAND Note (a)	Folio Identifier ~~1/71843~~ 1/718453	WHOLE	295 Trafalgar Street Petersham

TRANSFEROR Note (b)

CHRISTOS STAVRIS and DESPINA STAVRIS

ESTATE Note (c)

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of $ 98,000.00 and transfers an estate in fee simple in the land above described to the TRANSFEREE

TRANSFEREE Note (d)

PAUL MILNE to be of 295 Trafalgar Street Petersham

OFFICE USE ONLY

S

TENANCY Note (e)

as joint tenants/tenants in common

PRIOR ENCUMBRANCES Note (f)

subject to the following PRIOR ENCUMBRANCES 1. ..... 2. ..... 3. .....

DATE 13.4.88

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (g)

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

[signature]
Signature of Witness

MICHAEL DONEVSKI
Name of Witness (BLOCK LETTERS)

[illegible] ST NEWTOWN [illegible]
Address and occupation of Witness

D. Stavris
[signature]
Signature of Transferor

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

Note (g)

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address and occupation of Witness

[signature]
Signature of Transferee's Solicitor

KIM FIONA ROWLEY

TO BE COMPLETED BY LODGING PARTY Notes (h) and (i)

LODGED BY

304 Hville

Delivery Box Number

LOCATION OF DOCUMENTS

CT	OTHER	
✓		Herewith.
		In L.T.O. with
		Produced by

OFFICE USE ONLY

Checked	Passed	REGISTERED - -19	Secondary Directions	
[illegible] 7				
Signed	Extra Fee	20 APR 1988	Delivery Directions	

DL STAMP DUTY 13/03/88 1708 E CHQ 8

Appendix E
NSW WorkCover Dangerous Goods Search

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

Our Ref: D16/534443
Your ref: David Pizkalla

1 March 2016

Attention: David Rizkalla
Environmental Investigations Australia Pty Ltd
Suite 6.01
55 Miller St
Pyrmont NSW 2009

Dear Mr Rizkalla,

RE SITE: 3-7 & 13-17 Regent St & 287-309 Trafalgar St Petersham NSW

I refer to your site search request received by SafeWork NSW on 23 February 2016 requesting information on Storage of Hazardous Chemicals for the above site.

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

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

Yours sincerely,

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

Appendix F
Borehole Logs

BOREHOLE: BH1M

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	4/3/16
Position	Refer to Figure 2			Date Completed	4/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 4/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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
DT	H		0	0.14				-	CONCRETE; 140mm thick.			ID Static Water Level BH1M
								-	FILL: Silty CLAY; low to medium plasticity, dark grey, with fine to medium gravel and fine grained sand.	-	-	
					BH1M_0.5-.85							
					BH1M_0.5-0.6 ES							
				0.85	0.50-0.60 m							
					BH1M_0.7-0.8 ES			CI-CH	Silty CLAY; medium to high plasticity, grey mottled red-brown, with ironstone fragments.		F	
			1		0.70-0.80 m							
					BH1M_0.85-0.95							
				1.50								
					BH1M_1.5-1.95				From 1.5m, grey mottled yellow brown.	M>PL	St - VSt	
	E		2									
				3.00								
			3		BH1M_3.0-3.45			-	SHALE; grey mottled orange brown, extremely low strength, extremely weathered, trace of fine grained sand.			
AD/T			4									
					BH1M_4.5-4.6							
			5									
	F-H									-	-	
			6									
			7									
			8		BH1M_8.0-8.5 D							
					8.00-8.50 m							
				8.50								
NMLC		100% RETURN	9					-	SHALE; dark grey, well developed, thinly laminated to thinly bedded, highly fractured.			
			10									

PIEZOMETER DETAILS: BH1M — Stickup; Bentonite; Cuttings; 50 mm uPVC Casing; Bentonite

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 04/04/2016 15:59 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH1M

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	4/3/16
Position	Refer to Figure 2			Date Completed	4/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 4/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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
NMLC		100% RETURN	10					-	SHALE; dark grey, well developed, thinly laminated to thinly bedded, highly fractured.			BH1M
			11	11.40					From 11.4m, medium bedded.			Sand; 50 mm uPVC Screen
			12									
			13									
			14	14.17					Hole Terminated at 14.17 m			
			15									
			16									
			17									
			18									
			19									
			20									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 04/04/2016 15:59 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH2

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	9/3/16
Position	Refer to Figure 2			Date Completed	10/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged	JZ Date: 10/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked	NF Date: 21/3/16
		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	H	GWNE	0					-	ASPHALT: 50mm thick.	-		CONCRETE HARDSTAND
					BH2_0.2-0.5 ES 0.20-0.50 m			-	FILL: Gravelly SAND; fine to medium grained, dark grey/dark brown, with clay.	D	-	FILL
				0.50	BH2_0.5-0.8 ES 0.50-0.80 m			-	FILL: Silty CLAY; low plasticity, dark grey mottled red, trace of fine to medium gravel.			
				0.80	BH2_0.8-0.95			CI-CH	Silty CLAY; medium to high plasticity, grey mottled red-brown, with ironstone fragments.	M>PL	St - VSt	RESIDUAL SOIL
	E		1		BH2_1.2-1.5 ES 1.20-1.50 m							
					BH2_1.5-1.8							
				1.80	BH2_1.8-1.95			-	SHALE; dark brown/grey/red-brown, extremely low strength to very low strength, extremely weathered.			WEATHERED ROCK
			2									
			3		BH2_3.0-3.45					-	-	
	F		4									
					BH2_4.5-4.7							
			5		BH2_5.0-5.5 D 5.00-5.50 m							
				5.50				-	CORELOSS: 300mm thick.			
NMLC		90-100% RETURN		5.80				-	SHALE; dark grey/dark brown, highly ractured, with frequent decomposed seams and zones.			
			6									
			7									
				7.86				-	SHALE; dark grey, poorly developed, thinly laminated to thinly bedded, bedding dipping 0-5°.			
			8									
			9									
			10									

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

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BOREHOLE: BH2

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Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	9/3/16
Position	Refer to Figure 2			Date Completed	10/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 10/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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
NMLC		90-100% RETURN	10					-	SHALE; dark grey, poorly developed, thinly laminated to thinly bedded, bedding dipping 0-5°.			
			11									
			12	12.00				-	SHALE; dark grey, well developed, thinly laminated to medium bedded.			
			13									
			14									
			15	15.53								
									Hole Terminated at 15.53 m			
			16									
			17									
			18									
			19									
			20									

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

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BOREHOLE: BH3

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Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	9/3/16
Position	Refer to Figure 2			Date Completed	9/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 9/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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	H	GWNE	0					-	ASPHALT: 50mm thick.	-		CONCRETE HARDSTAND
					BH3_0.2-0.5 ES 0.20-0.50 m			-	FILL: Gravelly SAND; fine to medium grained, dark grey/dark brown, with clay.	D		FILL
				0.50	BH3_0.5-0.95			-	FILL: Silty CLAY; low plasticity, dark grey mottled red, trace of fine to medium gravel.		-	
			1		BH3_0.8-1.0 ES 0.80-1.00 m							
				1.50								
	E				BH3_1.5-1.95			CI-CH	Silty CLAY; medium to high plasticity, grey mottled brown.	M>PL	St - VSt	RESIDUAL SOIL
			2									
				3.00								
			3		BH3_3.0-3.45			-	SHALE; dark brown/grey, extremely low to very low strength, extremely weathered.			WEATHERED ROCK
	F									-	-	
			4		BH3_4.0-4.5 D 4.00-4.50 m							
				4.50				-	SHALE; dark grey mottled red-brown, highly fractured, with frequent decomposed seams.			
NMLC		90-100% RETURN	5									
			6									
				6.70				-	CORELOSS: 100mm thick.			
			7									
				7.37				-	SHALE; dark grey, well developed, thinly laminted to thinly bedded, bedding dipping 0-5°.			
			8									
			9									
				9.90								
			10									

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

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BOREHOLE: BH3

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	9/3/16
Position	Refer to Figure 2			Date Completed	9/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 9/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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
NMLC		90-100% RETURN	10					-	SHALE; dark grey, well developed, thinly laminted to thinly bedded, bedding dipping 0-5°. From 9.9m, highly fractured, with frequent decomposed seams.			
			11									
			12									
			13	13.00				-	SHALE; dark grey, well developed, thinly laminated to medium bedded.			
			14									
			15									
			16									
			17	16.98					Hole Terminated at 16.98 m			
			18									
			19									
			20									

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

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BOREHOLE: BH4M

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Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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	H	GWNE	0					-	ASPHALT: 50mm thick.	-	-	BH4M
					BH4M_0.2-0.4 ES 0.20-0.40 m			-	FILL: Gravelly SAND; fine to medium grained, dark grey/dark brown, with clay.	D		
				0.50	BH4M_0.5-0.95			-	FILL: Sandy CLAY; low to medium plasticity, dark brown/dark grey, with fine to medium grained sand and fine to medium gravel.	M>PL	-	
	E		1		BH4M_1.0-1.3 ES 1.00-1.30 m							
				1.50	BH4M_1.5-1.95			Cl	Silty CLAY; medium plasticity, grey mottled orange-brown, grading into extremely weathered shale.	M<PL	VSt - H	
			2	2.20				-	SHALE: red-brown/grey, extremely low to very low strength, extremely weathered.	-	-	
			3		BH4M_3.0-3.45							
	F		4									
				4.50	BH4M_4.5-4.72				From 4.5m, red brown/dark grey			
			5		BH4M_5.0-5.5 D 5.00-5.50 m							
				5.50				-	SHALE; dark grey/red brown, poorly developed, high fractured.			
NMLC		90-100% RETURN	6	6.30				-	SHALE; dark grey, poorly-well developed.			
			7									
			8									
			9									
			10									

Gatic Cover
Cuttings
50 mm uPVC Casing
Bentonite

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

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BOREHOLE: BH4M

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Rockwell Drilling Pty Ltf	Logged JZ	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hanjin D&B	Checked NF	Date: 21/3/16
		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
NMLC		90-100% RETURN	10					-	SHALE; dark grey, poorly-well developed.			BH4M
			11									Sand
			12									50 mm uPVC Screen
			13									
			14									
			15	15.30								
			16						Hole Terminated at 15.30 m			
			17									
			18									
			19									
			20									

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

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BOREHOLE: BH6M

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	11/3/16
Position	Refer to Figure 2			Date Completed	11/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 11/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	H		0					-	ASPHALT: 50mm thick.	-		BH6M
				0.50	BH6M_0.2-0.4 ES 0.20-0.40 m			-	FILL: Gravelly SAND; fine to medium grained, dark grey/dark brown, with clay.	D		No Surface Concrete Completion
					BH6M_0.5-0.95			-	FILL: Silty CLAY; low plasticity, dark brown/dark grey/red with fine to medium grained sand and fine to medium gravel, trace of sandstone fragments.			
			1						SHALE; dark grey, highly weathered to distinctly weathered.			
					BH6M_1.3-1.5 ES 1.30-1.50 m					M<PL		
					BH6M_1.5-1.95							
	E		2									Cuttings
				2.50				-	SHALE; dark brown/grey, extremely low to very low strength, extremely weathered.			
			3		BH6M_2.8-3.0 ES 2.80-3.00 m							50 mm uPVC Casing
					BH6M_3.0-3.45							
			4									
	F			4.50	BH6M_4.5-4.95				From 4.5m, dark grey mottled red.		-	Bentonite
	E		5									
				6.00						-		
		▽	6		BH6M_6.0-6.45				From 6.0m, inferred very low strength.			
	F											
			7									Sand
				7.50	BH6M_7.5-7.95							50 mm uPVC Screen
	H		8									
				8.50					From 8.5m, inferred low to medium strength.			
	VH				BH6M_8.5-9.0 D 8.50-9.00 m							
				9.00					Hole Terminated at 9.00 m			
			9									
			10									

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BOREHOLE: BH7

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Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	10/3/16
Position	Refer to Figure 2			Date Completed	10/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 10/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	H	GWNE	0					-	ASPHALT: 50mm thick.	-		CONCRETE HARDSTAND
					BH7_0.2-0.4 ES QD1 QT1 0.20-0.40 m			-	FILL: Gravelly SAND; fine to medium grained, dark brown/red, with clay.	D		FILL
				0.50	BH7_0.5-0.95			-	FILL: Silty CLAY; low plasticity, dark grey/dark brown/red-brown, with fine to medium grained sand and fine to medium gravel.			
	E		1		BH7_0.8-1.0 ES 0.80-1.00 m						-	
					BH7_1.5-1.95					M<PL		
			2	2.30								
					BH7_2.3-2.5 ES 2.30-2.50 m			CI-CH	Silty CLAY; medium to high plasticity, grey mottled red-brown, with dark brown ironstone fragments.			RESIDUAL SOIL
			3		BH7_3.0-3.4					M>PL	St - VSt	
				3.40							H	
	F				BH7_3.4-3.45			-	SHALE; dark grey/brown.			WEATHERED ROCK
			4		BH7_4.5-4.95					-	-	
			5	5.50								
NMLC		90-100% RETURN	6					-	CORELOSS: 2.2m thick.			
			7	7.70				-	SHALE; dark grey/dark brown.			
			8	8.30				-	CORELOSS: 100mm thick.			
								-	SHALE; dark grey, highly fractured, with frequent decomposed seams and zones.			
			9									
			10									

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

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BOREHOLE: BH7

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	10/3/16
Position	Refer to Figure 2			Date Completed	10/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 10/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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
NMLC		90-100% RETURN	10					-	SHALE; dark grey, highly fractured, with frequent decomposed seams and zones.			
			11	11.10				-	SHALE; dark grey, well developed, thinly laminated to thinly bedded.			
			12									
			13									
			14									
			15									
			16									
			17	17.00					Hole Terminated at 17.00 m			
			18									
			19									
			20									

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

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BOREHOLE: BH9M

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Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	8/3/16
Position	Refer to Figure 2			Date Completed	8/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 8/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	H	GWNE	0	0.40	BH9M_0.2-0.3 ES 0.20-0.30 m			-	ASPHALT: 50mm thick.	-	-	BH9M
								-	FILL Silty SAND; fine grained, brown to light brown, with some rootlets and terracotta/concrete gravels.	M		Gatic Cover
					BH9M_0.5-0.95			-	FILL Silty Gravelly CLAY; low plasticity, brown mottled dark grey, with some timber and brick fragments.			Concrete
			1	1.00	BH9M_1.0-1.1 ES 1.00-1.10 m			-	FILL: Silty CLAY; low plasticity, dark brown, with some brick and timber fragments, slight organic odour.	(M<PL)		
					BH9M_1.5-1.89							
				1.89	BH9M_1.89-1.95			CI-CH	Silty CLAY; medium to high plasticity, brown wit some red mottling, with some fine to medium sub-angular ironstone gravel.	M>PL	H	
	E		2	2.10	BH9M_2.0-2.1 ES 2.00-2.10 m			-	SHALE; grey-brown, with some orange ironstaining, very low strength, distinctly weathered.			
					BH9M_2.6-2.7 D 2.60-2.70 m							Cuttings
			3		BH9M_3.0-3.06					-	-	50 mm uPVC Casing
					BH9M_3.4-3.5 D 3.40-3.50 m							
					BH9M_3.8-3.9 D 3.80-3.90 m							
			4	4.10	BH9M_4.2-4.3 D 4.20-4.30 m				From 4.1m, grey, distinctly, very low to low strength.			
NMLC		85-90% RETURN		4.50				-	SHALE; dark grey, with some orange staining, bedding dipping 0-5°.			
				4.73				-	CORELOSS; 330mm thick.			
			5	5.06				-	SHALE; dark grey, with some orange staining, bedding dipping 0-5°, interbedded with clay.			Bentonite
			6	6.00					From 6.0m, heavy iron staining, no clay.			
			7									Sand
												50 mm uPVC Screen
		60-70% RETURN	8									
			9									Bentonite
			10									

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

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BOREHOLE: BH9M

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	8/3/16
Position	Refer to Figure 2			Date Completed	8/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 8/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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
NMLC		70-75% RETURN	10					-	SHALE; dark grey, with some orange staining, bedding dipping 0-5°, interbedded with clay.			BH9M
			11									Sand
			12									
			13	13.00					Hole Terminated at 13.00 m			
			14									
			15									
			16									
			17									
			18									
			19									
			20									

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BOREHOLE: BH10M

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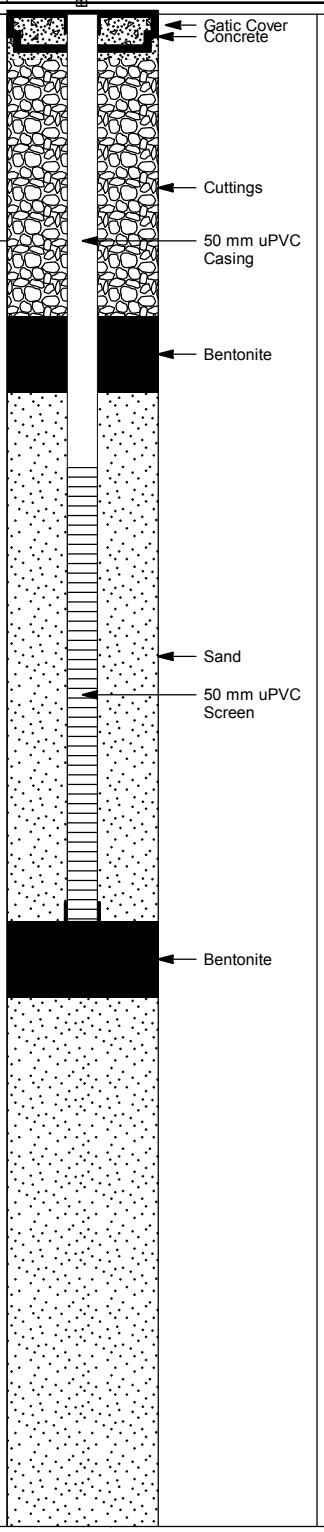
Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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
AD/T	H	GWNE	0	0.12				-	ASPHALT: 120mm thick.		
					BH10M_0.2-0.3 ES 0.20-0.30 m			-	SHALE; grey-brown, extremely low to very low strength, extremely to distinctly weathered.	-	-
	E				BH10M_0.5-0.57						
			1		BH10M_0.9-1.0 ES 0.90-1.00 m						
				1.30	BH10M_1.0-1.1 D 1.00-1.10 m				From 1.3m, grey-brown, interbedded with some to medium ironstone gravel, distinctly weathered, very low to low strength.		
				1.50	BH10M_1.4-1.5 D 1.40-1.50 m			-	SHALE; pale-grey brown, with orange iron staining.		
			2		BH10M_1.5-1.51						
				3.00					From 3.0m, grey-brown, with some orange iron staining.		
NMLC		85-90% RETURN	4								
			5								
				5.50					From 5.5m, bedding dipping 0-5°, dark grey.		
			6								
				6.80							
				6.93				-	CORELOSS: 130mm thick.		
			7					-	SHALE; bedding dipping 0-5°, dark grey.		
			8								
			9								
			10								

PIEZOMETER DETAILS
ID Static Water Level
BH10M



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

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BOREHOLE: BH10M

Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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
NMLC		85-90% RETURN	10					-	SHALE; bedding dipping 0-5°, dark grey.			BH10M
			11									← Sand
			12	12.27								
				12.47				-	CORELOSS: 200mm thick.			
			13					-	SHALE; bedding dipping 0-5°, dark grey.			
			14	14.57					From 14.57m, interbedded with fine grained sandstone			
			15	15.00				-	SHALE; bedding dipping 0-5°, dark grey.			
			16	16.00					Hole Terminated at 16.00 m			
			17									
			18									
			19									
			20									

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BOREHOLE: BH11M

Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	H	GWNE	0		BH11M_0.1-0.2 ES 0.10-0.20 m			-	ASPHALT: 50mm thick.			BH11M
	E				BH11M_0.5-0.54			-	SHALE; pale grey, interbedded with red ironstone, extremely low strength, extremely weathered.			Gatic Cover
				0.90								Concrete
	F		1		BH11M_1.0-1.1 ES 1.00-1.10 m				From 0.9m, grey-brown, very low strength, extremely weathered to distinctly weathered.			
				1.60	BH11M_1.5-1.53							
	F-H				BH11M_1.6-1.7 ES 1.60-1.70 m				From 1.6m, grey-brown, very low to low strength, distinctly weathered.	-	-	
			2		BH11M_2.0-2.1 ES 2.00-2.10 m							
					BH11M_2.6-2.7 ES 2.60-2.70 m							Cuttings
			3									
					BH11M_3.5-3.6 ES 3.50-3.60 m							
				4.00	BH11M_3.9-4.0 D 3.90-4.00 m			-	SHALE; pale grey, with red ironstaining.			
AD/T		85-90% RETURN	4									
			5	5.20					From 5.2m, bedding dipping 0-10°, grey, with occasional orange iron staining, interbedded with some clay.			Bentonite
			6									
			7									Sand
			8									
			9									Bentonite
		80-85% RETURN	10	10.00								

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

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BOREHOLE: BH11M

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	7/3/16
Position	Refer to Figure 2			Date Completed	7/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged SY	Date: 7/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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		80-85% RETURN	10	10.53				-	SHALE; bedding dipping 0-10°, dark grey.			BH11M
				10.81				-	CORELOSS: 280mm thick.			
			11					-	SHALE; bedding dipping 0-10°, dark grey.			
				11.27				-	CORELOSS: 340mm thick.			
				11.61				-	SHALE; bedding dipping 0-10°, dark grey.			
			12									
												← Sand
			13									
			14									
				14.53					From 14.53m, interbedded with fine grained sandstone.			
			15									
				16.00					Hole Terminated at 16.00 m			
			16									
			17									
			18									
			19									
			20									

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BOREHOLE: BH12

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	11/3/16
Position	Refer to Figure 2			Date Completed	11/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 11/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	H		0					-	ASPHALT: 30mm thick.	-		CONCRETE HARDSTAND
					BH12_0.2-0.4 ES 0.20-0.40 m			-	FILL: Gravelly SAND; fine to medium grained, with fine to coarse gravel.	D		FILL
				0.50	BH120.5-0.95			-	FILL: Silty CLAY; dark grey/dark brown, with fine to medium grained gravel and sand, trace of fine to medium grained sandstone fragments.	M<PL		
	E		1	1.30	BH12_1.3-1.5 ES 1.30-1.50 m BH12_1.5-1.95			-	SHALE; dark brown/dark grey/red, extremely low strength, extremely weathered.			WEATHERED ROCK
			2									
	F		3		BH12_3.0-3.1					-	-	
			4									
		▷		4.50	BH12_4.5-4.63				From 4.5m, inferred low strength.			
	H		5									
				5.50	BH12_5.5-6.0 D 5.50-6.00 m				From 5.5m, inferred low to medium strength.			
	VH		6	6.00					Hole Terminated at 6.00 m			
			7									
			8									
			9									
			10									

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BOREHOLE: BH15M

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Project	Proposed Mixed Use Development			Sheet	1 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	8/3/16
Position	Refer to Figure 2			Date Completed	8/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 8/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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	E	NOT OBSERVABLE - CASING NOT INSTALLED DUE TO HEIGHT RESTRICTIONS INSIDE WAREHOUSE	0					-	ASPHALT: 80mm thick.	-		BH15M
				0.50	BH15M_0.2-0.4 ES 0.20-0.40 m			-	FILL: Gravelly CLAY; low plasticity, dark grey/dark brown, with fine to medium grained sand.		-	Gatic Cover
					BH15M_0.5-0.9			-	FILL: Silty CLAY; medium plasticity, grey mottled red-brown, with shale and ironstone fragments.	M<PL		Bentonite
			1		BH15M_0.9-0.95							
				1.50	BH15M_1.5-1.95			CI-CH	Silty CLAY; medium to high plasticity, dark grey.			
					BH15M_1.8-2.0 ES 1.80-2.00 m					M>PL	St	
			2									Cuttings
				3.00	BH15M_3.0-3.3			CI-CH	Silty CLAY; medium to high plasticity, red mottled grey, with ironstone fragments.			
				3.30	BH15M_3.3-3.45			-	SHALE; red-brown/dark grey, extremely low to very low strength, extremely weathered.			50 mm uPVC Casing
			4									
	F			4.50	BH15M_4.5-4.95				From 4.5m, grey mottled red-brown.	-	-	Bentonite
			5									
NMLC				5.50				-	SHALE; dark grey/dark bornw, highly fractured, with frequent decomposed seams.			
			6									
				6.50				-	CORELOSS: 500mm thick.			
			7	7.00				-	SHALE; dark grey/dark bornw, highly fractured, with frequent decomposed seams.			
				7.85								
			8	8.00				-	CORELOSS: 150mm thick.			
								-	SHALE; dark grey, highly fractured.			
				8.42				-	SHALE; dakr grey, well developed, thinly laminated to medium bedded, bedding dipping 0-5°.			
			9									Sand
			10									50 mm uPVC Screen

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

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BOREHOLE: BH15M

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Project	Proposed Mixed Use Development			Sheet	2 OF 2
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	8/3/16
Position	Refer to Figure 2			Date Completed	8/3/16
Job No.	E22913	Contractor	Terratest Pty Ltd	Logged JZ	Date: 8/3/16
Client	Deicorp Pty Ltd	Drill Rig	Hydropower Scout	Checked NF	Date: 21/3/16
		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
NMLC			10					-	SHALE; dakr grey, well developed, thinly laminated to medium bedded, bedding dipping 0-5°.			BH15M
			11									
			12	*12.70*					Hole Terminated at 12.70 m			
			13									
			14									
			15									
			16									
			17									
			18									
			19									
			20									

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BOREHOLE: BH16

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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
DT			0.0	0.08				-	CONCRETE: 80mm thick.	-		CONCRETE HARDSTAND
AD/T	-	GWNE	0.5	0.60	BH16_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 68 ppm			-	FILL: Silty CLAY; low to medium plasticity, with fine to medium, angular to sub-angular gravel, with odour. From 0.6m, light brown.	M	-	FILL
			1.0	0.80				CL-CI	Silty CLAY; low to medium plasticity, brown, no odour.	M		RESIDUAL SOIL
				1.10	BH16_1.0-1.1 ES 1.00-1.10 m 1.00 m PID = 19.8 ppm				Hole Terminated at 1.10 m			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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BOREHOLE: BH17

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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	0.0					-	CONCRETE: 80mm thick.			CONCRETE HARDSTAND
									FILL: Sandy CLAY; low plasticity, dark brown, with angular to sub-angular gravel, no odour.	M	-	FILL
			0.5	0.60	BH17_0.5-0.6 ES 0.50-0.60 m 0.50 m PID = 54 ppm			CL-CI	Silty CLAY; low to medium plasticity, dark grey, no odour.	M		RESIDUAL SOIL
			1.0	1.00	BH17_0.9-1.0 ES 0.90-1.00 m 0.90 m PID = 28 ppm				Hole Terminated at 1.00 m			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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BOREHOLE: BH18

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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
DT			0.0	0.10				-	CONCRETE: 100mm thick.	-		CONCRETE HARDSTAND
AD/T	-	GWNE	0.5	0.60	BH18_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 0 ppm			-	Silty CLAY; light yellow, l-m plasticity, no odour. From 0.6m, light brown.	D	-	Fill Residual
			1.0	1.00	BH18_0.9-1.0 ES 0.90-1.00 m 0.90 m PID = 0 ppm				Hole Terminated at 1.00 m			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

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BOREHOLE: BH20

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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
DT			0.0	0.10				-	CONCRETE: 100mm thick.	-		CONCRETE HARDSTAND
								-	FILL Silty CLAY; low to medium plasticity, with angular to sub-angular gravel, with trace of plastic, no odour.			FILL
			0.5		BH20_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 10.1 ppm					M		
				0.90								
AD/T	-	GWNE	1.0					CL-CI	Silty CLAY; low to medium plasticity, grey mottled orange, no odour.			RESIDUAL SOIL
			1.5		BH20_1.4-1.5 ES 1.40-1.50 m 1.40 m PID = 20.1 ppm					M	-	
			2.0									
				2.40								
			2.5		BH20_2.4-2.5 ES 2.40-2.50 m 2.40 m PID = 0 ppm			-	SHALE; grey-orange, inferred extremely weathered, no odour.			WEATHERED ROCK
			3.0							D		
				3.20					From 3.2m, light grey.			
					BH20_3.3-3.4 ES 3.30-3.40 m 3.30 m PID = 0 ppm							
			3.5	3.50					Hole Terminated at 3.50 m			
			4.0									
			4.5									
			5.0									

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BOREHOLE: BH21

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Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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
DT			0.0	0.10				-	CONCRETE: 100mm thick.	-	32768	CONCRETE HARDSTAND
AD/T	-	GWNE	0.5	0.30				-	FILL: Gravelly SAND; medium grained, dark grey, with angular to sub-angular gravel, no odour.	M	-	FILL
				0.50	BH21_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 25 ppm			-	FILL: Silty CLAY; low plasticity, dark grey, with fine to medium, angular to sub-angular gravel, no odour.	M		
			1.0					-	FILL: Silty CLAY; low plasticity, dark grey, no odour.	M		
			1.5	1.60	BH21_1.4-1.5 ES 1.40-1.50 m 1.40 m PID = 55 ppm			CI	Silty CLAY; medium plasticity, light grey mottled orange, no odour.	M		RESIDUAL SOIL
			2.0	2.60	BH21_2.5-2.6 ES 2.50-2.60 m 2.50 m PID = 0 ppm				Hole Terminated at 2.60 m			
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:29 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH22

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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	0.0					-	FILL: Gravelly SAND; fine to medium grained, dark grey, trace of plastic, no odour.	M		FILL
				0.30				-	FILL: Silty CLAY; low plasticity, dark grey, no odour.	M		
			0.5	0.50	BH22_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 0.5 ppm			CL	Silty CLAY; low plasticity, dark grey mottled red, with trace of rootlets, no odour.	M	-	RESIDUAL SOIL
			1.0	1.20	BH22_1.1-1.2 ES 1.10-1.20 m 1.10 m PID = 0.6 ppm				Hole Terminated at 1.20 m			
			1.5									
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:29 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH23

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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
DT			0.0	0.10				-	CONCRETE: 100mm thick.	-		CONCRETE HARDSTAND
AD/T	-	GWNE	0.5	0.50	BH23_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 26.1 ppm			-	FILL: Silty CLAY; low to medium plasticity, grey, no odour. From 0.5m, orange mottled grey.	M	-	FILL
			1.0	1.00	BH23_0.9-1.0 ES 0.90-1.00 m 0.90 m PID = 7.4 ppm			CI	Silty CLAY; medium plasticity, grey mottled orange, no odour.	M		RESIDUAL SOIL
			1.5	1.50	BH23_1.4-1.5 ES 1.40-1.50 m 1.40 m PID = 5.6 ppm				Hole Terminated at 1.50 m			
			2.0									
			2.5									
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:30 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH24

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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	0.0	0.10				-	ASPHALT: 100mm thick.	-		CONCRETE HARDSTAND
								-	FILL: Sandy CLAY; low plasticity, brown/orange, with medium, angular to sub-angular gravel, no odour.	M		FILL
			0.5	0.50	BH24_0.4-0.5 ES 0.40-0.50 m 0.40 m PID = 0.6 ppm			-	FILL: Sandy CLAY; brown mottled orange, trace of brick, no odour.			
			1.0									
			1.5		BH24_1.4-1.5 ES 1.40-1.50 m 1.40 m PID = 10.1 ppm					M	-	
			2.0									
				2.30				CI-CH	Silty CLAY; medium to high plasticity, light grey mottled orange, no odour.	M		RESIDUAL SOIL
			2.5	2.60	BH24_2.4-2.5 ES 2.40-2.50 m 2.40 m PID = 0.1 ppm				Hole Terminated at 2.60 m			
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:30 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH25

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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	0.0	0.05				-	ASPHALT: 50mm thick.	-		CONCRETE HARDSTAND
								-	FILL: Silty SAND; fine to medium grained, with angular to sub-angular gravel, no odour.			FILL
			0.5		BH25_0.3-0.4 ES QD3 QT3 0.30-0.40 m 0.30 m PID = 0.5 ppm							
			1.0							M		
			1.5								-	
			2.0	2.10								
					BH25_2.1-2.2 ES 2.10-2.20 m 2.10 m PID = 0.1 ppm			-	SHALE: grey, inferred extremely weathered, no odour.			WEATHERED ROCK
			2.5							D		
				2.80					Hole Terminated at 2.80 m			
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:30 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

BOREHOLE: BH27

eiaustralia
Contamination | Remediation | Geotechnical

Project	Proposed Mixed Use Development			Sheet	1 OF 1
Location	Regent & Trafalgar Street, Petersham NSW			Date Started	17/3/16
Position	Refer to Figure 2			Date Completed	17/3/16
Job No.	E22913	Contractor	BG Drilling	Logged MT	Date: 17/3/16
Client	Deicorp Pty Ltd	Drill Rig	Dando Dual Mast	Checked NF	Date: 21/3/16
		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	0.0	0.05				-	ASPHALT: 50mm thick.	-		CONCRETE HARDSTAND
					BH27_0.2-0.3 ES 0.20-0.30 m 0.20 m PID = 0.8 ppm			-	FILL: Silty SAND; yellow/red, with rounded to sub-rounded gravel, no odour.	M		FILL
			0.5	0.50				CL	Sandy CLAY; low plasticity, yellow, no odour.	M	-	RESIDUAL SOIL
			1.0									
			1.5									
			2.0	2.20				-	SHALE; grey, inferred extremely weathered, no odour.	D		WEATHERED ROCK
			2.5	2.50	BH27_2.3-2.4 ES 2.30-2.40 m 2.30 m PID = 0.6 ppm				Hole Terminated at 2.50 m			
			3.0									
			3.5									
			4.0									
			4.5									
			5.0									

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

EIA LIB 1.03.GLB Log IS AU BOREHOLE 3 E22913 BOREHOLE LOGS.GPJ <<DrawingFile>> 21/03/2016 13:30 8.30.004 Datgel Lab and In Situ Tool - DGD | Lib: EIA 1.03 2014-07-05 Prj: EIA 1.03 2014-07-05

Appendix G
Field Data Sheets

Environmental Investigations Australia
Contamination | Remediation | Geotechnical

FIELD DATA SHEET

Project: E22913 Sheet: 1 of 3

Site Address: Trafalgar St, Petersham Engineer: AT

Client: _____ Sampling Date: 25/03/16

Monitoring Bore ID: BH5M Date Drilled: _____ Date Developed: _____ Drilled Depth: 12.9 mBGL Hole Size: _____mm Measured Bore Depth: _____mBTOC

Bore Location Description: _____ TOC Stickup 0.85 m (Relative to Ground Level)

Date Purged: _____ Purging Method: _____

SWL Before Purging (m BTOC): 2.6 Time of SWL: _____ Sampling Method: _____ Time Sample Taken: 3:40

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
(5)	22.65	6.28	1171	585	3.77	174.1	N	clear, no turbidity, no sheen.
	22.66	6.29	1170	585	3.19	172	N	no odour.
	22.66	6.29	1170	585	2.91	166.3	N	
	22.67	6.30	1169	584	2.73	160.6	N	

Monitoring Bore ID: BH1M Date Drilled: _____ Date Developed: _____ Drilled Depth: _____mBGL Hole Size: _____mm Measured Bore Depth: 13.9 mBTOC

Bore Location Description: _____ TOC Stickup 1.1 m (Relative to Ground Level)

Date Purged: _____ Purging Method: _____

SWL Before Purging (m BTOC): 2.7 Time of SWL: 2.25 Sampling Method: _____ Time Sample Taken: 3:55

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
(5)	22.79	6.67	550	275	4.19	145.2	N	clear no turbidity, no sheen.
	22.86	6.80	549	274	2.96	136.0	N	no odour.
	22.87	6.81	549	275	2.89	134.3	N	
	22.88	6.82	549	275	2.79	131.9	N	

Monitoring Bore ID: BH4M Date Drilled: _____ Date Developed: _____ Drilled Depth: _____mBGL Hole Size: _____mm Measured Bore Depth: 15.4 mBTOC

Bore Location Description: _____ TOC Stickup 0.13 m (Relative to Ground Level)

Date Purged: _____ Purging Method: _____

SWL Before Purging (m BTOC): 3.34 Time of SWL: _____ Sampling Method: _____ Time Sample Taken: 4:10

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
	23.54	6.15	626	314	3.88	160.5	N	light Brown, no sheen no
	23.86	6.19	628	314	3.39	156.9	N	odour, low turbidity.
	24.03	6.19	628	314	3.29	149.9	N	
	24.24	6.20	638	318	3.33	145.6	N	
	24.48	6.21	627	313	3.28	144.3	N	

Environmental Investigations Australia
Contamination | Remediation | Geotechnical

FIELD DATA SHEET

Project: E22913 Sheet: 2 of 2
Site Address: Trafalgar St, Petersham. Engineer:
Client: Sampling Date:

Monitoring Bore ID: BH10H Date Drilled: Date Developed: Drilled Depth: mBGL Hole Size: mm Measured Bore Depth: 6.5 mBTOC
Bore Location Description: TOC Stickup 0.1 m (Relative to Ground Level)
Date Purged: Purging Method:
SWL Before Purging (m BTOC): 3 Time of SWL: Sampling Method: Time Sample Taken: 4:30

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
	23.33	5.29	2032	1000	7.32	95.4	N	light brown, low turbidity, m turb.
	23.34	5.37	2000	1002	6.35	89.0	N	no sheen no odour
	23.31	5.39	2005	1001	3.15	88.2	N	
	23.29	5.39	2010	1003	2.67	84.0	N	
	23.30	5.39	2004	1004	2.42	82.5	N	

Monitoring Bore ID: BH9H Date Drilled: Date Developed: Drilled Depth: mBGL Hole Size: mm Measured Bore Depth: mBTOC
Bore Location Description: TOC Stickup 0.09 m (Relative to Ground Level)
Date Purged: Purging Method:
SWL Before Purging (m BTOC): 3.3 Time of SWL: 3:15 pm Sampling Method: Time Sample Taken: 4:45

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
	23.71	6.27	804	402	2.98	120.5	N	~~light~~ Dark brown ~~low~~ High turbidity
	23.96	6.29	808	404	2.40	116.8	N	no sheen no odour.
	24.10	6.30	807	404	1.83	113.5	N	
	24.51	6.30	804	402	1.60	111.2	N	
	24.96	6.29	804	402	1.68	108.3	N.	

Monitoring Bore ID: BH11H Date Drilled: Date Developed: Drilled Depth: mBGL Hole Size: mm Measured Bore Depth: mBTOC
Bore Location Description: TOC Stickup 0.09 m (Relative to Ground Level)
Date Purged: Purging Method:
SWL Before Purging (m BTOC): 3.51 Time of SWL: 3.25 Sampling Method: Time Sample Taken: 5:00.

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
	22.83	6.36	640	320	4.06	136.2	N	Light yellow, lo turbidity, no
	22.97	6.34	641	320	3.91	128.8	N	sheen no odour.
	22.99	6.33	641	321	3.21	124.3	N	
	23.04	6.33	641	321	3.08	123.5	N	
	23.15	6.33.	641	321	2.87	118.6	N.	

Environmental Investigations Australia
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FIELD DATA SHEET

Project: E22913 Sheet: 3 of 3

Site Address: Trafalgar St, Petersham Engineer: _____

Client: _____ Sampling Date: _____

Monitoring Bore ID: BH6M Date Drilled: _____ Date Developed: _____ Drilled Depth: 8.8 mBGL Hole Size: _____mm Measured Bore Depth: _____mBTOC

Bore Location Description: _____ TOC Stickup 0.08 m (Relative to Ground Level)

Date Purged: _____ Purging Method: _____

SWL Before Purging (m BTOC): 2.7 Time of SWL: 7:30 Sampling Method: _____ Time Sample Taken: 8:00

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
	22.33	5.5	1468	758	8.92	174.5	N	light brown - l-m turbidity,
	22.32	5.51	1476	738	5.63	160.6	N	no sheen no odour.
	22.26	5.51	1479	740	4.76	152.2	N	
	22.19	5.51	1480	740	4.21	148.3	N	
	22.13	5.51	1481	740	4.10	147.1	N	

Monitoring Bore ID: _____ Date Drilled: _____ Date Developed: _____ Drilled Depth: _____mBGL Hole Size: _____mm Measured Bore Depth: _____mBTOC

Bore Location Description: _____ TOC Stickup _____ 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

Monitoring Bore ID: _____ Date Drilled: _____ Date Developed: _____ Drilled Depth: _____mBGL Hole Size: _____mm Measured Bore Depth: _____mBTOC

Bore Location Description: _____ TOC Stickup _____ 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

Appendix H
Chain of Custody and Sample Receipt Forms

source: M630_SR_20160309100919.pdf page: 7 SGS Ref: SE149872_COC

Sheet 1 of 1

Site: 3-7 Regent Street, 13-17 Regent St, & 287 Trafalgar St, Petersham

Project No: E22913

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

Sample Matrix | Analysis

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB	HM A /TRH/BTEX/PAHs NOCS	HM A /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS				TCLP PAHs	TCLP HM A	TCLP HM B
BH1M 0.5-0.6	1	glass jar	4/3/16					✓																
MT ( )																								
BH4 0.2-0.4	2		7/3/16					✓																
BH4 1.5-1.95	3		7/3/16						✓															
BH15 0.2-0.4	4		7/3/16					✓																
BH15 1.8-2.0	5		7/3/16						✓															
BH1M 0.5-0.6	6	zip lock bag	4/3/16												✓									
MT ( )																								
BH4 0.2-0.4	7	zip lock bag	7/3/16												✓									
BH15 0.2-0.4	8	zip lock bag	7/3/16												✓									

SGS Alexandria Environmental
SE149872 COC
Received: 08-Mar-2016

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
ZinC

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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:
could you please make sure all samples all analysed within holding times as some were sampled on Friday 4/3/16
Thank you.

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): Mariana Torres
Print
Signature
Date 8/03/16

Received by (SGS):
Print Suba
Signature
Date 08/03/16 @ 4.~

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

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

SAMPLE RECEIPT ADVICE

SE149872

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St&Trafalgar St Petersham**
Order Number	**E22913**
Samples	8

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 8/3/2016
Report Due	Tue 15/3/2016
SGS Reference	**SE149872**

SUBMISSION DETAILS

This is to confirm that 8 samples were received on Tuesday 8/3/2016. Results are expected to be ready by Tuesday 15/3/2016. Please quote SGS reference SE149872 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	8 Soils	Type of documentation received	COC
Date documentation received	8/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/en/terms-and-conditions as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

SAMPLE RECEIPT ADVICE

SE149872

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St&Trafalgar St Petersham

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 Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH1M_0.5-0.6	28	13	25	11	7	10	12	8
002	BH4_0.2-0.4	28	13	25	11	7	10	12	8
003	BH4_1.5-1.95	-	-	25	-	7	10	79	8
004	BH15_0.2-0.4	28	13	25	11	7	10	12	8
005	BH15_1.8-2.0	-	-	25	-	7	10	79	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

SE149872

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St&Trafalgar St Petersham

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH1M_0.5-0.6	-	1	1
002	BH4_0.2-0.4	-	1	1
003	BH4_1.5-1.95	-	1	1
004	BH15_0.2-0.4	-	1	1
005	BH15_1.8-2.0	-	1	1
006	BH1M_0.5-0.6	2	-	-
007	BH4_0.2-0.4	2	-	-
008	BH15_0.2-0.4	2	-	-

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 .

source: M630_SR_20160310163211.pdf page: 5 SGS Ref: SE149963_COC

Sheet 1 of 2

Site: 34 Regent St, 13-17 Regent St & 287 Trafalgar St, Petersham NSW.

Project No: E22913.

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	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/~~Asbestos~~	HM A /TRH/BTEX/PAHs /VOC'S	HM A /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS	OH HOLD			TCLP PAHs	TCLP HM A	TCLP HM B
BH2 0.2-0.4	1	glassjar	9/03/16			✓		✓																
BH2 0.5-0.8			9/03/16			✓													✓					
BH2 1.2-1.5	2		9/03/16			✓			✓															
BH3 0.2-0.4	3		9/03/16			✓		✓																
BH3 0.8-1.0	4		9/03/16.			✓			✓															
* BH9M 0.2-0.3	5		8/03/16			✓		✓																
* BH9M 1.0-1.1			8/03/16			✓													✓					
* BH9M 2.0-2.1	6		8/03/16.			✓			✓															
* BH11M 1.1-0.2	7		7/03/16			✓		✓																
* BH11M 1.0-1.1	8	↓	7/03/16.			✓			✓															
BH2 0.2-0.4	9	zplock bag	9/03/16			✓									✓									
BH3 0.2-0.4	10	zplock bag	9/03/16			✓									✓									

SGS Alexandria Environmental
SE149963 COC
Received: 10 – Mar – 2016

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
ZinC

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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:
* Some samples were taken on the 7/3/16. Could you please analyse them so they are within holding time. thank you.

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): Mariana Torres
Print: [signature]
Signature: 10/03/16
Date

Received by (SGS):
Print: A. Odisho
Signature: [signature]
Date: 10/3/16 @ 3:00

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

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

Sheet 2 of 2

Site: 3-7 Regent St, 13-17 Regent St & 287 Trafalgar St, Petersham NSW

Project No: E22913

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	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	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	Asbestos			TCLP PAHs	TCLP HM [A]	TCLP HM [B]
BHMH0203	11	zip lock bag	2/03/16			✓													✓					
BHMH0102	12	zip lock bag	2/03/16.			✓													✓					

Comments

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

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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 (SGS):
Print: Mariana Torres	Print: A. Odisho
Signature:	Signature:
Date: 2/03/16	Date: 10/3/16 @3:00

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

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

SAMPLE RECEIPT ADVICE

SE149963

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	12

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	Thu 10/3/2016
Report Due	Thu 17/3/2016
SGS Reference	**SE149963**

SUBMISSION DETAILS

This is to confirm that 12 samples were received on Thursday 10/3/2016. Results are expected to be ready by Thursday 17/3/2016. Please quote SGS reference SE149963 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	12 Soil	Type of documentation received	COC
Date documentation received	10/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.0°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

2 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/en/terms-and-conditions as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

SAMPLE RECEIPT ADVICE

SE149963

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

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 Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH2_0.2-0.4	28	13	25	11	7	10	12	8
002	BH2_1.2-1.5	-	-	25	-	7	10	79	8
003	BH3_0.2-0.4	28	13	25	11	7	10	12	8
004	BH3_0.8-1.0	-	-	25	-	7	10	79	8
005	BH9M_0.2-0.3	28	13	25	11	7	10	12	8
006	BH9M_2.0-2.1	-	-	25	-	7	10	79	8
007	BH11M_0.1-0.2	28	13	25	11	7	10	12	8
008	BH11M_1.0-1.1	-	-	25	-	7	10	79	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

SE149963

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH2_0.2-0.4	-	1	1
002	BH2_1.2-1.5	2	1	1
003	BH3_0.2-0.4	-	1	1
004	BH3_0.8-1.0	2	1	1
005	BH9M_0.2-0.3	-	1	1
006	BH9M_2.0-2.1	2	1	1
007	BH11M_0.1-0.2	-	1	1
008	BH11M_1.0-1.1	2	1	1
009	BH2_0.2-0.4	2	-	-
010	BH3_0.2-0.4	2	-	-
011	BH9M_0.2-0.3	2	-	-
012	BH11M_0.1-0.2	2	-	-

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 .

source: M630_SR_20160314162238.pdf page: 1 SGS Ref: SE150039_COC

Sheet 1 of 1

Site: 3-7 Regent St, 13-17 Regent St & 287 Trafalgar St, Petersham

Project No: E22913

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 /VOCs	HM A /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS	BTEX			TCLP PAHs	TCLP HM A	TCLP HM B
BH6 0.2-0.4	1	glass jar	11/03/16					✓																
BH6 1.3-1.5	2	↓	11/03/16						✓															
BH7 0.2-0.4	3		10/03/16					✓																
BH7 2.3-2.5	4		10/03/16						✓															
BH12 0.2-0.4	5		11/03/16					✓																
BH12 1.3-1.5	6	↓	11/03/16						✓															
BH6 0.2-0.4	7	ziplock bag	11/03/16												✓									
BH7 0.2-0.4	8	ziplock bag	10/03/16												✓									
BH12 0.2-0.4	9	ziplock bag	11/03/16												✓									
QD1	10	glass jar	10/03/16							✓														
QTB1	11	glass jar	11/03/16															✓						
QR1	12	PVC VS	11/03/16							✓														

SGS Alexandria Environmental
SE150039 COC
Received: 14 – Mar – 2016

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
ZinC

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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:
could you please analyse the samples within holding time. thanks

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): Mariana Torres
Print
Signature
Date: 14/03/16

Received by (SGS):
Print: A. Ochoa
Signature
Date: 14/3/16 @ 2:10

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

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

SAMPLE RECEIPT ADVICE

SE150039

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent & Trafalgar St Petersham**
Order Number	**E22913**
Samples	12

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	Mon 14/3/2016
Report Due	Mon 21/3/2016
SGS Reference	**SE150039**

SUBMISSION DETAILS

This is to confirm that 12 samples were received on Monday 14/3/2016. Results are expected to be ready by Monday 21/3/2016. Please quote SGS reference SE150039 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	11 Soils, 1 Water	Type of documentation received	COC
Date documentation received	14/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/en/terms-and-conditions as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

SAMPLE RECEIPT ADVICE

SE150039

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent & Trafalgar St Petersham

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 Metals in Soil by ICPOES	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH6 0.2-0.4	28	13	25	11	7	10	12	8
002	BH6 1.3-1.5	-	-	25	-	7	10	79	8
003	BH7 0.2-0.4	28	13	25	11	7	10	12	8
004	BH7 2.3-2.5	-	-	25	-	7	10	79	8
005	BH12 0.2-0.4	28	13	25	11	7	10	12	8
006	BH12 1.3-1.5	-	-	25	-	7	10	79	8
010	QD1	-	-	-	-	7	10	79	8
011	QTB1	-	-	-	-	-	-	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

SE150039

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent & Trafalgar St Petersham

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	BH6 0.2-0.4	-	1	1	-	-	-
002	BH6 1.3-1.5	-	1	1	-	-	-
003	BH7 0.2-0.4	-	1	1	-	-	-
004	BH7 2.3-2.5	-	1	1	-	-	-
005	BH12 0.2-0.4	-	1	1	-	-	-
006	BH12 1.3-1.5	-	1	1	-	-	-
007	BH6 0.2-0.4_ZLP	2	-	-	-	-	-
008	BH7 0.2-0.4_ZLP	2	-	-	-	-	-
009	BH12 0.2-0.4_ZLP	2	-	-	-	-	-
010	QD1	-	1	1	-	-	-
011	QTB1	-	-	1	-	-	-
012	QR1	-	-	-	9	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

SE150039

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent & Trafalgar St Petersham

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS
012	QR1	1	7

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 .

source: M630_SR_20160321101940.pdf page: 1 SGS Ref: SE150233_COC

Sheet 1 of 3

Site: 3-7 Regent St, 13-17 Regent St, 287-309 Trafalgar St Petersham

Project No: E22913.

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 /VOCs	HM A /TRH/BTEX	TRH/BTEX/Lead	TRH/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS	On HOLD			TCLP PAHs	TCLP HM A	TCLP HM B
BH1 0.4-0.5	1	glass jar	17/03/16					✓																
BH1 1.0-1.1		↓	↓																✓					
BH7 0.9-1.0	2								✓															
BH1 0.4-0.5	3							✓																
BH2 0.4-0.5																			✓					
BH2 0.3-0.4	4								✓															
BH2 1.0-1.05	5							✓																
BH2 1.9-1.5	6								✓															
BH2 0.4-0.5	7							✓																
BH2 1.1-1.2	8								✓															
BH2 0.4-0.5	9	↓	↓					✓																
BH2 1.9-1.5	10								✓															

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_____

SGS Alexandria Environmental
SE150233 COC
Received: 18 – Mar – 2016

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 (SGS):
Mariana Bipes	
Print	Print Suba
Signature	Signature
Date 18/03/16.	Date 18/03/16 @ 10:40

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

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

Sheet 2 of 3

Site: 372 13-17 Regent St, 287-309 Trafalgar St Petersham

Project No: E22913

Laboratory: SGS Australia, Unit 16, 33 Maddox St, Alexandria NSW 2015. P: 0285940400

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	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	ON HOLD				TCLP PAHs	TCLP HM[B]
BH2 04-0.5	11	glass jar	17/03/16					✓																
BH2 24-25	12	↓							✓															
BH2S 03-0.4	13							✓																
BH26 04-0.5																		✓						
BH27 02-0.3																		✓						
BH27 23-24	14	↓							✓															
BH604-0.5	15	2 plastic bag.													✓									
BH705-06	16	↓													✓									
BH804-0.5	17														✓									
BH904-05	18														✓									
BH2004-05	19	↓	↓												✓									
BH2104-0.5	20														✓									

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): Mariana Torres

Print: Mariana

Signature: 18/03/16

Date:

Received by (Envirolab):

Print: Suba

Signature:

Date: 18/03/16 @ 10.40

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

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

Sheet 3 of 3

Site: 307, 1377 Regent St; 287-309 Trafalgar St, Petersham.

Project No: E22913.

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	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	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	BTEX			TCLP PAHs	TCLP HM [A]	TCLP HM [B]
BH2204-05	21	2 plastic bag	17/03/16												✓									
BH23 0.4-0.5	22	↓													✓									
BH24 0.4-0.5	23														✓									
BH25 0.3-0.4	24														✓									
BH26 0.4-0.5	25														✓									
BH27 0.2-0.3	26	↓													✓									
SD2	27									✓														
SD3	28									✓														
RTB-1	29																	✓						

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; BTEX; TCLP PAHs; TCLP HM [A]; TCLP HM [B]

Comments

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

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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): Mariana Jones
Print
Signature
Date: 18/03/16

Received by (SGS):
Print: Suba
Signature
Date: 18/03/16 @ 10:40

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

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

SAMPLE RECEIPT ADVICE

SE150233

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	29

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	Fri 18/3/2016
Report Due	Tue 29/3/2016
SGS Reference	**SE150233**

SUBMISSION DETAILS

This is to confirm that 29 samples were received on Friday 18/3/2016. Results are expected to be ready by Tuesday 29/3/2016. Please quote SGS reference SE150233 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	29 Soil	Type of documentation received	COC
Date documentation received	18/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	6.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

4 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
2 extra samples received: BH19 0.4-0.5, BH19 1.3-1.4.

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/en/terms-and-conditions as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

SAMPLE RECEIPT ADVICE

SE150233

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

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 Metals in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH16 0.4-0.5	28	13	25	11	7	10	12	8
002	BH17 0.9-1.0	-	-	25	-	7	10	79	8
003	BH18 0.4-0.5	28	13	25	11	7	10	12	8
004	BH20 3.3-3.4	-	-	25	-	7	10	79	8
005	BH21 0.4-0.5	28	13	25	11	7	10	12	8
006	BH21 1.4-1.5	-	-	25	-	7	10	79	8
007	BH22 0.4-0.5	28	13	25	11	7	10	12	8
008	BH22 1.1-1.2	-	-	25	-	7	10	79	8
009	BH23 0.4-0.5	28	13	25	11	7	10	12	8
010	BH23 1.4-1.5	-	-	25	-	7	10	79	8
011	BH24 0.4-0.5	28	13	25	11	7	10	12	8
012	BH24 2.4-2.5	-	-	25	-	7	10	79	8
013	BH25 0.3-0.4	28	13	25	11	7	10	12	8
014	BH27 2.3-2.4	-	-	25	-	7	10	79	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

SE150233

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

SUMMARY OF ANALYSIS

No.	Sample ID	Total Recoverable Metals in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
027	QD2	7	10	12	8
028	QD3	7	10	12	8
029	QTB1	-	-	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

SE150233

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH16 0.4-0.5	-	1	1
002	BH17 0.9-1.0	-	1	1
003	BH18 0.4-0.5	-	1	1
004	BH20 3.3-3.4	-	1	1
005	BH21 0.4-0.5	-	1	1
006	BH21 1.4-1.5	-	1	1
007	BH22 0.4-0.5	-	1	1
008	BH22 1.1-1.2	-	1	1
009	BH23 0.4-0.5	-	1	1
010	BH23 1.4-1.5	-	1	1
011	BH24 0.4-0.5	-	1	1
012	BH24 2.4-2.5	-	1	1
013	BH25 0.3-0.4	-	1	1
014	BH27 2.3-2.4	-	1	1
015	BH16 0.4-0.5_ZLB	2	-	-
016	BH17 0.5-0.6_ZLB	2	-	-
017	BH18 0.4-0.5_ZLB	2	-	-
018	BH19 0.4-0.5_ZLB	2	-	-
019	BH20 0.4-0.5_ZLB	2	-	-
020	BH21 0.4-0.5_ZLB	2	-	-
021	BH22 0.4-0.5_ZLB	2	-	-
022	BH23 0.4-0.5_ZLB	2	-	-
023	BH24 0.4-0.5_ZLB	2	-	-
024	BH25 0.3-0.4_ZLB	2	-	-

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

SE150233

CLIENT DETAILS

Client Environmental Investigations

Project E22913 Regent St & Trafalgar St

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
025	BH26 0.4-0.5_ZLB	2	-	-
026	BH27 0.2-0.3_ZLB	2	-	-
027	QD2	-	1	1
028	QD3	-	1	1
029	QTB1	-	-	1

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: 3-7 Regent St, 13-17 Regent St 287 Trafalgar St, Petersham

Project No: E22913

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				TCLP PAHs	TCLP HM [A]	TCLP HM [B]
QT1	1	glass jar	10/03/16.							✓														

Comments

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

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

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

Job No: 143263
Date Received: 14/3/16
Time Received: 15-15
Received by: JAG
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

LABORATORY TURNAROUND

- [x] 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: Could you please analyse the sample so it is within holding time thankyou.

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): Marianne Turner
Print
Signature
Date: 14/03/16.

Received by (SGS): ELS
Print: James Goddard
Signature
Date: 14/3/16 15-15

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

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

Sheet 1 of 1

Site: 3-7 & 13-17 Regent St, 287-309 Trafalgar St, Petersham

Project No: E22913

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

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	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					TCLP PAHs	TCLP HM [B]
QT2	1	glassjar	17/03/16							✓														
QT3	2	glassjar	17/03/16							✓														

Comments

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

HM [B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

ENVIROLAB GROUP

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

Job No: 143540

Date Received: 18/3/16
Time Received: 13:00
Received by: JAK
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

LABORATORY TURNAROUND

- [x] 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):
Mariana Torres.	James Goddard
Print	Print
Signature	Signature
18/03/16.	18/3/16 13:00
Date	Date

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

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

source: M630_SR_20160330183740.pdf page: 4 SGS Ref: SE150560_COC

Sheet 1 of 1

Site: 3-7 Regent Street, 13-17 Regent St & 287 Trafalgar St

Project No: E22913

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	WATER	SOIL	OTHERS (i.e. Fibro, Paint, etc.)	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs /VOCs	HM A /TRH/BTEX	TRH/BTEX/Lead	[redacted]/BTEX	PAHs	VOCs	Asbestos	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	sPOCAS				TCLP PAHs	TCLP HM A	TCLP HM B
GWBH1M	1	1S,1P,2VC	28/03/16		✓				✓															
GWBH4M	2	↓	28/03/16		✓				✓															
GWBH6M	3		29/03/16		↓				✓															
GWBH9M	4		28/03/16						✓															
GWBH10M	5		↓						✓															
GWBH11M	6								✓															
GWBH15M	7								✓															
QR1	8									✓														
QD1	9	↓								✓														
TB1	10	1VC										✓												
TS1	11	1VC	↓		↓							✓												

SGS Alexandria Environmental

SE150560 COC
Received: 29 – Mar – 2016

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
ZinC

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

LABORATORY TURNAROUND

- [x] 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 (SGS):
Print: Mariana Torres	Print: A. Odisho
Signature:	Signature:
Date: 29/03/16	Date: 29/3/16 @ 3:10

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

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

SAMPLE RECEIPT ADVICE

SE150560

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913-3-7, 13-17 Regent St Trafalgar St**
Order Number	**E22913**
Samples	11

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 29/3/2016
Report Due	Tue 5/4/2016
SGS Reference	**SE150560**

SUBMISSION DETAILS

This is to confirm that 11 samples were received on Tuesday 29/3/2016. Results are expected to be ready by Tuesday 5/4/2016. Please quote SGS reference SE150560 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	11 Water	Type of documentation received	COC
Date documentation received	29/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	12.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

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

COMMENTS

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/en/terms-and-conditions as at the date of this document. Attention is drawn to the limitations of liability and to the clauses of indemnification.

SAMPLE RECEIPT ADVICE

SE150560

CLIENT DETAILS

Client Environmental Investigations

Project E22913-3-7, 13-17 Regent St Trafalgar St

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	6WBH1M	1	22	7	9	79	8
002	6WBH4M	1	22	7	9	79	8
003	6WBH6M	1	22	7	9	79	8
004	6WBH9M	1	22	7	9	79	8
005	6WBH10M	1	22	7	9	79	8
006	6WBH11M	1	22	7	9	79	8
007	6WBH15M	1	22	7	9	79	8
008	QR1	1	-	7	9	12	8
009	QD1	1	-	7	9	12	8
010	TB1	-	-	-	-	12	-
011	TS1	-	-	-	-	12	-

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 .

Appendix I
Laboratory Analytical Reports

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St&Trafalgar St Petersham**
Order Number	**E22913**
Samples	8

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	**SE149872 R0**
Date Received	8/3/2016
Date Reported	15/3/2016

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Asbestos Analyst/Hygiene Team Leader

VOC's in Soil [AN433/AN434] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-	<1	-	<1
Chloromethane	mg/kg	1	-	-	<1	-	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-	<0.1	-	<0.1
Bromomethane	mg/kg	1	-	-	<1	-	<1
Chloroethane	mg/kg	1	-	-	<1	-	<1
Trichlorofluoromethane	mg/kg	1	-	-	<1	-	<1
Acetone (2-propanone)	mg/kg	10	-	-	<10	-	<10
Iodomethane	mg/kg	5	-	-	<5	-	<5
1,1-dichloroethene	mg/kg	0.1	-	-	<0.1	-	<0.1
Acrylonitrile	mg/kg	0.1	-	-	<0.1	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-	<0.5	-	<0.5
Allyl chloride	mg/kg	0.1	-	-	<0.1	-	<0.1
Carbon disulfide	mg/kg	0.5	-	-	<0.5	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1-dichloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
Vinyl acetate	mg/kg	10	-	-	<10	-	<10
MEK (2-butanone)	mg/kg	10	-	-	<10	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	-	-	<0.1	-	<0.1
Bromochloromethane	mg/kg	0.1	-	-	<0.1	-	<0.1
Chloroform	mg/kg	0.1	-	-	<0.1	-	<0.1
2,2-dichloropropane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2-dichloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1-dichloropropene	mg/kg	0.1	-	-	<0.1	-	<0.1
Carbon tetrachloride	mg/kg	0.1	-	-	<0.1	-	<0.1
Dibromomethane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2-dichloropropane	mg/kg	0.1	-	-	<0.1	-	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-	<0.1	-	<0.1
2-nitropropane	mg/kg	10	-	-	<10	-	<10
Bromodichloromethane	mg/kg	0.1	-	-	<0.1	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-	<1	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,3-dichloropropane	mg/kg	0.1	-	-	<0.1	-	<0.1
Chlorodibromomethane	mg/kg	0.1	-	-	<0.1	-	<0.1
2-hexanone (MBK)	mg/kg	5	-	-	<5	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-	<0.1	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
Chlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
Bromoform	mg/kg	0.1	-	-	<0.1	-	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	-	<1
Styrene (Vinyl benzene)	mg/kg	0.1	-	-	<0.1	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	-	-	<0.1	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	-	-	<1	-	<1

VOC's in Soil [AN433/AN434] Tested: 10/3/2016 (continued)

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-	<0.1	-	<0.1
Bromobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
n-propylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
2-chlorotoluene	mg/kg	0.1	-	-	<0.1	-	<0.1
4-chlorotoluene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
tert-butylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
sec-butylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
p-isopropyltoluene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
n-butylbenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	-	-	<0.1	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	-	-	<0.1	-	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
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

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	**72**	<45	**1000**	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	**630**	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	**140**	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	**42**	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	**42**	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	**100**	<90	**1500**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	**280**	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	**1600**	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	**1800**	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
Naphthalene	mg/kg	0.1	<0.1	**0.1**	<0.1	**2.1**	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.7**	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.8**	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	**0.4**	<0.1	**6.6**	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.6**	<0.1
Fluorene	mg/kg	0.1	<0.1	**0.1**	<0.1	**3.6**	<0.1
Phenanthrene	mg/kg	0.1	<0.1	**3.2**	<0.1	**41**	<0.1
Anthracene	mg/kg	0.1	<0.1	**0.7**	<0.1	**13**	<0.1
Fluoranthene	mg/kg	0.1	<0.1	**4.8**	<0.1	**85**	<0.1
Pyrene	mg/kg	0.1	<0.1	**5.7**	<0.1	**94**	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	**2.5**	<0.1	**45**	<0.1
Chrysene	mg/kg	0.1	<0.1	**2.4**	<0.1	**36**	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	**1.8**	<0.1	**32**	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	**2.0**	<0.1	**32**	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	**2.4**	<0.1	**40**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	**1.1**	<0.1	**19**	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	**0.3**	<0.1	**4.5**	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	**0.9**	<0.1	**15**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	**3.4**	<0.2	**58**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	**3.4**	<0.3	**58**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	**3.4**	<0.2	**58**	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	**29**	<0.8	**470**	<0.8

OC Pesticides in Soil [AN400/AN420] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2

PCBs in Soil [AN400/AN420] Tested: 10/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 14/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
Arsenic, As	mg/kg	3	3	4	10	5	6
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	0.4	0.6	0.5
Chromium, Cr	mg/kg	0.3	12	7.4	6.9	10	21
Copper, Cu	mg/kg	0.5	17	24	31	29	13
Lead, Pb	mg/kg	1	26	260	21	100	24
Nickel, Ni	mg/kg	0.5	2.9	4.3	<0.5	12	2.9
Zinc, Zn	mg/kg	0.5	8.2	110	5.7	340	6.5

Mercury in Soil [AN312] Tested: 14/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
Mercury	mg/kg	0.01	**0.02**	**0.47**	<0.01	**0.10**	**0.02**

Moisture Content [AN002] Tested: 9/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.001	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.002	BH4_1.5-1.95 SOIL - 7/3/2016 SE149872.003	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.004	BH15_1.8-2.0 SOIL - 7/3/2016 SE149872.005
% Moisture	%w/w	0.5	**19**	**13**	**16**	**15**	**24**

Fibre Identification in soil [AN602] Tested: 14/3/2016

PARAMETER	UOM	LOR	BH1M_0.5-0.6 SOIL - 4/3/2016 SE149872.006	BH4_0.2-0.4 SOIL - 7/3/2016 SE149872.007	BH15_0.2-0.4 SOIL - 7/3/2016 SE149872.008
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

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.
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.
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
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
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/AN434/AN410	VOCs and C6-C9/C6-C10 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.
AN433/AN434	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).
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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Client	Environmental Investigations
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Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St&Trafalgar St Petersham**
Order Number	**E22913**
Samples	3

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	**SE149872 R0**
Date Received	08 Mar 2016
Date Reported	15 Mar 2016

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Asbestos Analyst/Hygiene Team Leader

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	
SE149872.006	BH1M_0.5-0.6	Soil	127g Clay, Soil, Rocks	04 Mar 2016	No Asbestos Found	<0.01
SE149872.007	BH4_0.2-0.4	Soil	145g Clay, Sand, Soil, Rocks	07 Mar 2016	No Asbestos Found	<0.01
SE149872.008	BH15_0.2-0.4	Soil	139g Clay, Sand, Soil, Rocks	07 Mar 2016	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).
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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/en/terms-and-conditions. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
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Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	12

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE149963 R0**
Date Received	10/3/2016
Date Reported	17/3/2016

COMMENTS

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

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

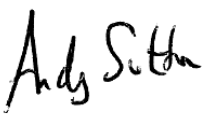
Sample #2, 4, 6, 8: A portion of the sample supplied has been sub-sampled for asbestos according to SGS In-house procedures.
We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied.
SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

Sample #10: 2-3mm length fibre bundles found in 3x2mm cement sheet fragment.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

PAH - The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.

SIGNATORIES



Andy Sutton
Senior Organic Chemist

Huong Crawford
Production Manager

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Yusuf Kuthpudin
Asbestos Analyst

VOC's in Soil [AN433/AN434] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
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	**0.5**	**0.1**	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-

VOC's in Soil [AN433/AN434] Tested: 11/3/2016 (continued)

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 11/3/2016 (continued)

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	<1
Chloromethane	mg/kg	1	<1	-	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	<0.1
Bromomethane	mg/kg	1	<1	-	<1
Chloroethane	mg/kg	1	<1	-	<1
Trichlorofluoromethane	mg/kg	1	<1	-	<1
Acetone (2-propanone)	mg/kg	10	<10	-	<10
Iodomethane	mg/kg	5	<5	-	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	-	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	<0.5
Allyl chloride	mg/kg	0.1	<0.1	-	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	-	<0.1
Vinyl acetate	mg/kg	10	<10	-	<10
MEK (2-butanone)	mg/kg	10	<10	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	-	<0.1
Chloroform	mg/kg	0.1	<0.1	-	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	-	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	-	<0.1
Dibromomethane	mg/kg	0.1	<0.1	-	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	-	<0.1
2-nitropropane	mg/kg	10	<10	-	<10
Bromodichloromethane	mg/kg	0.1	<0.1	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	-	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	-	<0.1
2-hexanone (MBK)	mg/kg	5	<5	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	-	<0.1
Bromoform	mg/kg	0.1	<0.1	-	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1

VOC's in Soil [AN433/AN434] Tested: 11/3/2016 (continued)

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	<0.1
Bromobenzene	mg/kg	0.1	<0.1	-	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	-	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1
Total VOC*	mg/kg	24	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
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	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
TRH C6-C9	mg/kg	20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
TRH C10-C14	mg/kg	20	<20	<20	**46**	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	**2100**	**180**	<45
TRH C29-C36	mg/kg	45	<45	<45	**1200**	**84**	<45
TRH C37-C40	mg/kg	100	<100	<100	**380**	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	**120**	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	**120**	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	**3000**	**250**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	**650**	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	**3400**	**270**	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	**3800**	**270**	<210

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
TRH C10-C14	mg/kg	20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	**53**	<45
TRH C29-C36	mg/kg	45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	7.1	0.3	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	2.3	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	2.3	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	0.3	<0.1	21	1.3	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	1.9	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	12	<0.1	<0.1
Phenanthrene	mg/kg	0.1	1.4	<0.1	180	11	0.2
Anthracene	mg/kg	0.1	0.5	<0.1	38	2.6	<0.1
Fluoranthene	mg/kg	0.1	3.1	<0.1	230	21	0.2
Pyrene	mg/kg	0.1	3.6	<0.1	270	24	0.3
Benzo(a)anthracene	mg/kg	0.1	1.5	<0.1	98	9.0	0.1
Chrysene	mg/kg	0.1	1.4	<0.1	83	7.7	0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	1.1	<0.1	92	7.0	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	1.1	<0.1	38	5.3	<0.1
Benzo(a)pyrene	mg/kg	0.1	1.3	<0.1	78	7.0	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.5	<0.1	32	3.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	0.1	<0.1	8.0	0.8	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.4	<0.1	24	2.3	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	1.9	<0.2	110	10	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	1.9	<0.3	110	10	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	1.9	<0.2	110	10	<0.2
Total PAH (18)	mg/kg	0.8	16	<0.8	1200	100	0.9

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	0.4	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	0.1	<0.1
Phenanthrene	mg/kg	0.1	0.5	1.9	<0.1
Anthracene	mg/kg	0.1	0.1	0.4	<0.1
Fluoranthene	mg/kg	0.1	0.5	3.1	0.1
Pyrene	mg/kg	0.1	0.5	3.8	0.2
Benzo(a)anthracene	mg/kg	0.1	0.2	2.1	<0.1
Chrysene	mg/kg	0.1	0.2	1.9	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	1.9	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	0.1	1.4	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.2	1.9	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.8	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.2	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.6	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	0.2	2.8	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.3	2.8	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.3	2.8	<0.2
Total PAH (18)	mg/kg	0.8	2.5	21	<0.8

OC Pesticides in Soil [AN400/AN420] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	**0.1**	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	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
Dieldrin	mg/kg	0.2	**0.4**	**1.5**	<0.2	<0.2
Endrin	mg/kg	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
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	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
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	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
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	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

PCBs in Soil [AN400/AN420] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
Arsenic, As	mg/kg	3	5	<3	8	4	<3
Cadmium, Cd	mg/kg	0.3	0.4	<0.3	1.3	0.6	0.3
Chromium, Cr	mg/kg	0.3	18	5.7	24	16	39
Copper, Cu	mg/kg	0.5	19	15	180	35	14
Lead, Pb	mg/kg	1	99	21	830	100	27
Nickel, Ni	mg/kg	0.5	4.5	<0.5	15	3.9	41
Zinc, Zn	mg/kg	0.5	53	3.2	690	120	40

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
Arsenic, As	mg/kg	3	4	4	3
Cadmium, Cd	mg/kg	0.3	0.4	0.5	<0.3
Chromium, Cr	mg/kg	0.3	9.8	12	6.4
Copper, Cu	mg/kg	0.5	36	29	6.1
Lead, Pb	mg/kg	1	29	260	12
Nickel, Ni	mg/kg	0.5	1.1	5.4	<0.5
Zinc, Zn	mg/kg	0.5	12	260	7.9

Mercury in Soil [AN312] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
Mercury	mg/kg	0.01	**0.15**	<0.01	**0.30**	**0.07**	**0.02**

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
Mercury	mg/kg	0.01	<0.01	**0.59**	**0.02**

Moisture Content [AN002] Tested: 11/3/2016

PARAMETER	UOM	LOR	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.001	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.003	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.005
% Moisture	%w/w	0.5	22	21	19	26	6.9

PARAMETER	UOM	LOR	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.007	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008
% Moisture	%w/w	0.5	18	10	9.5

Fibre Identification in soil [AN602] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH2_1.2-1.5 SOIL - 9/3/2016 SE149963.002	BH3_0.8-1.0 SOIL - 9/3/2016 SE149963.004	BH9M_2.0-2.1 SOIL - 9/3/2016 SE149963.006	BH11M_1.0-1.1 SOIL - 9/3/2016 SE149963.008	BH2_0.2-0.4 SOIL - 9/3/2016 SE149963.009
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

PARAMETER	UOM	LOR	BH3_0.2-0.4 SOIL - 9/3/2016 SE149963.010	BH9M_0.2-0.3 SOIL - 9/3/2016 SE149963.011	BH11M_0.1-0.2 SOIL - 9/3/2016 SE149963.012
Asbestos Detected	No unit	-	Yes	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

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.
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.
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
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
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/AN434/AN410	VOCs and C6-C9/C6-C10 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.
AN433/AN434	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).
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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	8

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	**SE149963 R0**
Date Received	10 Mar 2016
Date Reported	17 Mar 2016

COMMENTS

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

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

Sample #2, 4, 6, 8: A portion of the sample supplied has been sub-sampled for asbestos according to SGS In-house procedures.
We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied.
SGS Environmental Services recommends supplying approximately 50-100g of sample in a separate container.

Sample #10: 2-3mm length fibre bundles found in 3x2mm cement sheet fragment.

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

PAH - The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Huong Crawford
Production Manager

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Yusuf Kuthpudin
Asbestos Analyst

ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE149963.002	BH2_1.2-1.5	Soil	50g Clay	09 Mar 2016	No Asbestos Found	<0.01
SE149963.004	BH3_0.8-1.0	Soil	49g Clay, Soil, Rocks	09 Mar 2016	No Asbestos Found	<0.01
SE149963.006	BH9M_2.0-2.1	Soil	74g Clay	09 Mar 2016	No Asbestos Found	<0.01
SE149963.008	BH11M_1.0-1.1	Soil	65g Clay	09 Mar 2016	No Asbestos Found	<0.01
SE149963.009	BH2_0.2-0.4	Soil	208g Clay, Sand, Soil, Rocks	09 Mar 2016	No Asbestos Found Organic Fibres Detected	<0.01
SE149963.010	BH3_0.2-0.4	Soil	109g Clay, Sand, Soil, Rocks	09 Mar 2016	Chrysotile Asbestos Found	<0.01
SE149963.011	BH9M_0.2-0.3	Soil	64g Sand, Soil, Rocks	09 Mar 2016	No Asbestos Found Organic Fibres Detected	<0.01
SE149963.012	BH11M_0.1-0.2	Soil	71g Clay, Sand, Rocks	09 Mar 2016	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).
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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

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ANALYTICAL REPORT

Accreditation No. 2562

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Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent & Trafalgar St Petersham**
Order Number	**E22913**
Samples	12

LABORATORY DETAILS

Manager	Huong Crawford
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Telephone	+61 2 8594 0400
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Email	au.environmental.sydney@sgs.com
SGS Reference	**SE150039 R0**
Date Received	14/3/2016
Date Reported	21/3/2016

COMMENTS

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

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

Asbestos analysed by Approved Identifier Ravee Sivasubramaniam .

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Kamrul Ahsan
Senior Chemist

Ly Kim Ha
Organic Section Head

Ravee Sivasubramaniam
Asbestos Analyst/Hygiene Team Leader

VOC's in Soil [AN433/AN434] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
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	**0.2**
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-

VOC's in Soil [AN433/AN434] Tested: 15/3/2016 (continued)

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 15/3/2016 (continued)

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010	QTB1 SOIL - 11/3/2016 SE150039.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	-
Chloromethane	mg/kg	1	<1	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	-
Bromomethane	mg/kg	1	<1	<1	-
Chloroethane	mg/kg	1	<1	<1	-
Trichlorofluoromethane	mg/kg	1	<1	<1	-
Acetone (2-propanone)	mg/kg	10	<10	<10	-
Iodomethane	mg/kg	5	<5	<5	-
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	-
Acrylonitrile	mg/kg	0.1	<0.1	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	-
Allyl chloride	mg/kg	0.1	<0.1	<0.1	-
Carbon disulfide	mg/kg	0.5	<0.5	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	-
Vinyl acetate	mg/kg	10	<10	<10	-
MEK (2-butanone)	mg/kg	10	<10	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-
Bromochloromethane	mg/kg	0.1	<0.1	<0.1	-
Chloroform	mg/kg	0.1	<0.1	<0.1	-
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	-
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	-
Dibromomethane	mg/kg	0.1	<0.1	<0.1	-
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	-
2-nitropropane	mg/kg	10	<10	<10	-
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	-
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	-
2-hexanone (MBK)	mg/kg	5	<5	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-
Chlorobenzene	mg/kg	0.1	<0.1	<0.1	-
Bromoform	mg/kg	0.1	<0.1	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-

VOC's in Soil [AN433/AN434] Tested: 15/3/2016 (continued)

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010	QTB1 SOIL - 11/3/2016 SE150039.011
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	-
Bromobenzene	mg/kg	0.1	<0.1	<0.1	-
n-propylbenzene	mg/kg	0.1	<0.1	<0.1	-
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-
n-butylbenzene	mg/kg	0.1	<0.1	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-
Total VOC*	mg/kg	24	-	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
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	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**220**
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	**82**
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	**280**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**300**
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	**300**

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.6
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.2
Acenaphthylene	mg/kg	0.1	0.2	0.1	<0.1	<0.1	1.4
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	0.7
Phenanthrene	mg/kg	0.1	1.2	0.3	<0.1	<0.1	10
Anthracene	mg/kg	0.1	0.4	0.2	<0.1	<0.1	2.5
Fluoranthene	mg/kg	0.1	1.7	1.9	0.4	<0.1	15
Pyrene	mg/kg	0.1	2.0	3.2	0.7	<0.1	23
Benzo(a)anthracene	mg/kg	0.1	1.0	1.2	0.3	<0.1	7.1
Chrysene	mg/kg	0.1	0.9	1.1	0.3	<0.1	6.4
Benzo(b&j)fluoranthene	mg/kg	0.1	0.9	1.2	0.3	<0.1	6.6
Benzo(k)fluoranthene	mg/kg	0.1	0.4	0.5	0.2	<0.1	4.6
Benzo(a)pyrene	mg/kg	0.1	0.8	1.1	0.4	<0.1	7.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.4	0.5	0.2	<0.1	4.0
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0.1	<0.1	<0.1	1.0
Benzo(ghi)perylene	mg/kg	0.1	0.3	0.4	0.2	<0.1	3.6
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	1.1	1.6	0.5	<0.2	11
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	1.2	1.6	0.6	<0.3	11
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	1.2	1.6	0.5	<0.2	11
Total PAH (18)	mg/kg	0.8	10	12	3.0	<0.8	95

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006
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	0.4
Anthracene	mg/kg	0.1	0.1
Fluoranthene	mg/kg	0.1	0.5
Pyrene	mg/kg	0.1	0.7
Benzo(a)anthracene	mg/kg	0.1	0.3
Chrysene	mg/kg	0.1	0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2
Benzo(k)fluoranthene	mg/kg	0.1	0.2
Benzo(a)pyrene	mg/kg	0.1	0.2
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	0.2	0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	0.4
Total PAH (18)	mg/kg	0.8	3.0

OC Pesticides in Soil [AN400/AN420] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2

PCBs in Soil [AN400/AN420] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 17/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Arsenic, As	mg/kg	3	5	5	6	7	7
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.4	0.9
Chromium, Cr	mg/kg	0.3	14	15	15	18	15
Copper, Cu	mg/kg	0.5	13	19	18	21	46
Lead, Pb	mg/kg	1	25	41	26	27	360
Nickel, Ni	mg/kg	0.5	2.7	4.7	2.6	1.9	5.9
Zinc, Zn	mg/kg	0.5	21	41	18	18	440

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010
Arsenic, As	mg/kg	3	7	7
Cadmium, Cd	mg/kg	0.3	0.7	0.4
Chromium, Cr	mg/kg	0.3	29	13
Copper, Cu	mg/kg	0.5	3.2	21
Lead, Pb	mg/kg	1	22	34
Nickel, Ni	mg/kg	0.5	1.2	2.3
Zinc, Zn	mg/kg	0.5	11	27

Mercury in Soil [AN312] Tested: 18/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
Mercury	mg/kg	0.01	<0.01	**0.02**	**0.01**	<0.01	**0.11**

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010
Mercury	mg/kg	0.01	**0.02**	**0.03**

Moisture Content [AN002] Tested: 15/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4 SOIL - 11/3/2016 SE150039.001	BH6 1.3-1.5 SOIL - 11/3/2016 SE150039.002	BH7 0.2-0.4 SOIL - 10/3/2016 SE150039.003	BH7 2.3-2.5 SOIL - 10/3/2016 SE150039.004	BH12 0.2-0.4 SOIL - 11/3/2016 SE150039.005
% Moisture	%w/w	0.5	18	20	14	21	11

PARAMETER	UOM	LOR	BH12 1.3-1.5 SOIL - 11/3/2016 SE150039.006	QD1 SOIL - 10/3/2016 SE150039.010	QTB1 SOIL - 11/3/2016 SE150039.011
% Moisture	%w/w	0.5	14	15	<0.5

Fibre Identification in soil [AN602] Tested: 18/3/2016

PARAMETER	UOM	LOR	BH6 0.2-0.4_ZLP SOIL - 11/3/2016 SE150039.007	BH7 0.2-0.4_ZLP SOIL - 10/3/2016 SE150039.008	BH12 0.2-0.4_ZLP SOIL - 11/3/2016 SE150039.009
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

VOCs in Water [AN433/AN434] Tested: 15/3/2016

PARAMETER	UOM	LOR	QR1 WATER - 11/3/2016 SE150039.012
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	**1.0**
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/AN434/AN410] Tested: 15/3/2016

PARAMETER	UOM	LOR	QR1 WATER - 11/3/2016 SE150039.012
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: 14/3/2016

PARAMETER	UOM	LOR	QR1 WATER - 11/3/2016 SE150039.012
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

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 17/3/2016

PARAMETER	UOM	LOR	QR1 WATER - 11/3/2016 SE150039.012
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	**78**

Mercury (dissolved) in Water [AN311/AN312] Tested: 17/3/2016

PARAMETER	UOM	LOR	QR1 WATER - 11/3/2016 SE150039.012
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/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.
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
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/AN434/AN410	VOCs and C6-C9/C6-C10 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.
AN433/AN434	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).

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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	29

LABORATORY DETAILS

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SGS Reference	**SE150233 R0**
Date Received	18/3/2016
Date Reported	30/3/2016

COMMENTS

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

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

Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

SIGNATORIES

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VOC's in Soil [AN433/AN434] Tested: 21/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	<1	-	<1
Chloromethane	mg/kg	1	<1	-	<1	-	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Bromomethane	mg/kg	1	<1	-	<1	-	<1
Chloroethane	mg/kg	1	<1	-	<1	-	<1
Trichlorofluoromethane	mg/kg	1	<1	-	<1	-	<1
Acetone (2-propanone)	mg/kg	10	<10	-	<10	-	<10
Iodomethane	mg/kg	5	<5	-	<5	-	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	<0.5	-	<0.5
Allyl chloride	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	-	<0.5	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Vinyl acetate	mg/kg	10	<10	-	<10	-	<10
MEK (2-butanone)	mg/kg	10	<10	-	<10	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Chloroform	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Dibromomethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
2-nitropropane	mg/kg	10	<10	-	<10	-	<10
Bromodichloromethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	<1	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
2-hexanone (MBK)	mg/kg	5	<5	-	<5	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Bromoform	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1	-	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1	-	<1

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Bromobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	-	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
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
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028	QTB1 SOIL - 17/3/2016 SE150233.029
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	-
Chloromethane	mg/kg	1	-	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	-
Bromomethane	mg/kg	1	-	-
Chloroethane	mg/kg	1	-	-
Trichlorofluoromethane	mg/kg	1	-	-
Acetone (2-propanone)	mg/kg	10	-	-
Iodomethane	mg/kg	5	-	-
1,1-dichloroethene	mg/kg	0.1	-	-
Acrylonitrile	mg/kg	0.1	-	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	-
Allyl chloride	mg/kg	0.1	-	-
Carbon disulfide	mg/kg	0.5	-	-
trans-1,2-dichloroethene	mg/kg	0.1	-	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	-
1,1-dichloroethane	mg/kg	0.1	-	-
Vinyl acetate	mg/kg	10	-	-
MEK (2-butanone)	mg/kg	10	-	-
cis-1,2-dichloroethene	mg/kg	0.1	-	-
Bromochloromethane	mg/kg	0.1	-	-
Chloroform	mg/kg	0.1	-	-
2,2-dichloropropane	mg/kg	0.1	-	-
1,2-dichloroethane	mg/kg	0.1	-	-
1,1,1-trichloroethane	mg/kg	0.1	-	-
1,1-dichloropropene	mg/kg	0.1	-	-
Carbon tetrachloride	mg/kg	0.1	-	-
Dibromomethane	mg/kg	0.1	-	-
1,2-dichloropropane	mg/kg	0.1	-	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	-
2-nitropropane	mg/kg	10	-	-
Bromodichloromethane	mg/kg	0.1	-	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	-
cis-1,3-dichloropropene	mg/kg	0.1	-	-
trans-1,3-dichloropropene	mg/kg	0.1	-	-
1,1,2-trichloroethane	mg/kg	0.1	-	-
1,3-dichloropropane	mg/kg	0.1	-	-
Chlorodibromomethane	mg/kg	0.1	-	-
2-hexanone (MBK)	mg/kg	5	-	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	-
Chlorobenzene	mg/kg	0.1	-	-
Bromoform	mg/kg	0.1	-	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	-
1,2,3-trichloropropane	mg/kg	0.1	-	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	-

VOC's in Soil [AN433/AN434] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028	QTB1 SOIL - 17/3/2016 SE150233.029
Isopropylbenzene (Cumene)	mg/kg	0.1	-	-
Bromobenzene	mg/kg	0.1	-	-
n-propylbenzene	mg/kg	0.1	-	-
2-chlorotoluene	mg/kg	0.1	-	-
4-chlorotoluene	mg/kg	0.1	-	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	-
tert-butylbenzene	mg/kg	0.1	-	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	-
sec-butylbenzene	mg/kg	0.1	-	-
1,3-dichlorobenzene	mg/kg	0.1	-	-
1,4-dichlorobenzene	mg/kg	0.1	-	-
p-isopropyltoluene	mg/kg	0.1	-	-
1,2-dichlorobenzene	mg/kg	0.1	-	-
n-butylbenzene	mg/kg	0.1	-	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	-	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	-
Total VOC*	mg/kg	24	-	-

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 21/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
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	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
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	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
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	QD3 SOIL - 17/3/2016 SE150233.028
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 21/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
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	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	**190**	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	**80**	<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	**250**	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	**270**	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	**270**	<210

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
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	mg/kg	210	<210	<210	<210	<210	<210

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 21/3/2016 (continued)

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028
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-C16 (F2)	mg/kg	25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH C10-C40 Total	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 22/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
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	<0.1	<0.1	<0.1	<0.1	**0.7**
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.2**
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**1.8**
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**2.3**
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.9**
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.9**
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.8**
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.5**
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.9**
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	**0.4**
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	<0.1	<0.1	<0.1	**0.4**
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	**1.3**
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	**1.3**
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	**1.3**
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	**9.8**

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.3**	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.2**	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.3**	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	**1.7**	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	**0.3**	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	**1.7**	<0.1
Phenanthrene	mg/kg	0.1	**0.4**	**0.6**	<0.1	**14**	<0.1
Anthracene	mg/kg	0.1	**0.2**	**0.2**	<0.1	**2.8**	<0.1
Fluoranthene	mg/kg	0.1	**0.7**	**1.3**	<0.1	**24**	<0.1
Pyrene	mg/kg	0.1	**0.8**	**1.7**	<0.1	**26**	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.3**	**0.6**	<0.1	**8.8**	<0.1
Chrysene	mg/kg	0.1	**0.3**	**0.5**	<0.1	**7.2**	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.3**	**0.5**	<0.1	**7.9**	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	**0.1**	**0.4**	<0.1	**4.7**	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.2**	**0.5**	<0.1	**8.3**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	**0.3**	<0.1	**4.5**	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	**1.0**	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.1**	**0.3**	<0.1	**4.2**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	**0.3**	**0.7**	<0.2	**12**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	**0.4**	**0.8**	<0.3	**12**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	**0.3**	**0.8**	<0.2	**12**	<0.2
Total PAH (18)	mg/kg	0.8	**3.4**	**6.8**	<0.8	**120**	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 22/3/2016 (continued)

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014
Naphthalene	mg/kg	0.1	<0.1	<0.1	**0.2**	<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	**0.4**	<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	**0.7**	<0.1	**2.2**	<0.1
Anthracene	mg/kg	0.1	**0.3**	<0.1	**0.6**	<0.1
Fluoranthene	mg/kg	0.1	**1.7**	<0.1	**4.6**	<0.1
Pyrene	mg/kg	0.1	**2.7**	<0.1	**5.5**	<0.1
Benzo(a)anthracene	mg/kg	0.1	**0.8**	<0.1	**2.5**	<0.1
Chrysene	mg/kg	0.1	**0.8**	<0.1	**2.1**	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.8**	<0.1	**2.1**	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	**0.5**	<0.1	**1.6**	<0.1
Benzo(a)pyrene	mg/kg	0.1	**0.9**	<0.1	**2.4**	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	**0.4**	<0.1	**1.3**	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	**0.1**	<0.1	**0.3**	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.5**	<0.1	**1.3**	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	**1.3**	<0.2	**3.5**	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	**1.3**	<0.3	**3.5**	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	**1.3**	<0.2	**3.5**	<0.2
Total PAH (18)	mg/kg	0.8	**10**	<0.8	**27**	<0.8

OC Pesticides in Soil [AN400/AN420] Tested: 22/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009
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	**0.5**
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	**0.4**
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

OC Pesticides in Soil [AN400/AN420] Tested: 22/3/2016 (continued)

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1

OP Pesticides in Soil [AN400/AN420] Tested: 22/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009
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

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2

PCBs in Soil [AN400/AN420] Tested: 22/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009
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

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013
Arochlor 1016	mg/kg	0.2	<0.2	**0.7**
Arochlor 1221	mg/kg	0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 23/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
Arsenic, As	mg/kg	3	<3	<3	4	<3	<3
Cadmium, Cd	mg/kg	0.3	0.4	0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	4.8	5.1	2.1	1.3	4.2
Copper, Cu	mg/kg	0.5	58	25	19	9.8	24
Lead, Pb	mg/kg	1	16	21	7	11	44
Nickel, Ni	mg/kg	0.5	0.5	2.6	<0.5	<0.5	5.4
Zinc, Zn	mg/kg	0.5	7.8	12	3.5	2.3	35

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
Arsenic, As	mg/kg	3	7	<3	10	5	3
Cadmium, Cd	mg/kg	0.3	0.7	<0.3	0.9	0.5	1.1
Chromium, Cr	mg/kg	0.3	22	0.7	23	13	18
Copper, Cu	mg/kg	0.5	16	0.7	16	21	38
Lead, Pb	mg/kg	1	30	1	27	150	32
Nickel, Ni	mg/kg	0.5	4.4	<0.5	2.4	3.6	0.6
Zinc, Zn	mg/kg	0.5	29	<0.5	12	84	12

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
Arsenic, As	mg/kg	3	8	5	4	18	5
Cadmium, Cd	mg/kg	0.3	0.6	0.3	0.4	<0.3	<0.3
Chromium, Cr	mg/kg	0.3	15	13	17	4.6	2.4
Copper, Cu	mg/kg	0.5	27	18	20	13	10
Lead, Pb	mg/kg	1	130	23	150	16	20
Nickel, Ni	mg/kg	0.5	7.9	1.3	12	0.6	<0.5
Zinc, Zn	mg/kg	0.5	220	15	120	5.7	2.3

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028
Arsenic, As	mg/kg	3	4
Cadmium, Cd	mg/kg	0.3	0.4
Chromium, Cr	mg/kg	0.3	16
Copper, Cu	mg/kg	0.5	22
Lead, Pb	mg/kg	1	200
Nickel, Ni	mg/kg	0.5	12
Zinc, Zn	mg/kg	0.5	170

Mercury in Soil [AN312] Tested: 23/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
Mercury	mg/kg	0.01	**0.01**	**0.03**	<0.01	<0.01	**0.18**

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
Mercury	mg/kg	0.01	**0.02**	**0.06**	<0.01	**0.10**	<0.01

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
Mercury	mg/kg	0.01	**0.08**	<0.01	**0.19**	<0.01	<0.01

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028
Mercury	mg/kg	0.01	**0.13**

Moisture Content [AN002] Tested: 21/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5 SOIL - 17/3/2016 SE150233.001	BH17 0.9-1.0 SOIL - 17/3/2016 SE150233.002	BH18 0.4-0.5 SOIL - 17/3/2016 SE150233.003	BH20 3.3-3.4 SOIL - 17/3/2016 SE150233.004	BH21 0.4-0.5 SOIL - 17/3/2016 SE150233.005
% Moisture	%w/w	0.5	19	19	13	18	22

PARAMETER	UOM	LOR	BH21 1.4-1.5 SOIL - 17/3/2016 SE150233.006	BH22 0.4-0.5 SOIL - 17/3/2016 SE150233.007	BH22 1.1-1.2 SOIL - 17/3/2016 SE150233.008	BH23 0.4-0.5 SOIL - 17/3/2016 SE150233.009	BH23 1.4-1.5 SOIL - 17/3/2016 SE150233.010
% Moisture	%w/w	0.5	28	26	24	24	18

PARAMETER	UOM	LOR	BH24 0.4-0.5 SOIL - 17/3/2016 SE150233.011	BH24 2.4-2.5 SOIL - 17/3/2016 SE150233.012	BH25 0.3-0.4 SOIL - 17/3/2016 SE150233.013	BH27 2.3-2.4 SOIL - 17/3/2016 SE150233.014	QD2 SOIL - 17/3/2016 SE150233.027
% Moisture	%w/w	0.5	16	22	10	10	13

PARAMETER	UOM	LOR	QD3 SOIL - 17/3/2016 SE150233.028	QTB1 SOIL - 17/3/2016 SE150233.029
% Moisture	%w/w	0.5	8.6	<0.5

Fibre Identification in soil [AN602] Tested: 23/3/2016

PARAMETER	UOM	LOR	BH16 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.015	BH17 0.5-0.6_ZLB SOIL - 17/3/2016 SE150233.016	BH18 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.017	BH19 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.018	BH20 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.019
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

PARAMETER	UOM	LOR	BH21 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.020	BH22 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.021	BH23 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.022	BH24 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.023	BH25 0.3-0.4_ZLB SOIL - 17/3/2016 SE150233.024
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

PARAMETER	UOM	LOR	BH26 0.4-0.5_ZLB SOIL - 17/3/2016 SE150233.025	BH27 0.2-0.3_ZLB SOIL - 17/3/2016 SE150233.026
Asbestos Detected	No unit	-	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01

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.
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.
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
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
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/AN434/AN410	VOCs and C6-C9/C6-C10 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.
AN433/AN434	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).
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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/en/terms-and-conditions. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 143263

Client:

Environmental Investigations
Suite 6.01, 55 Miller Street
Pyrmont
NSW 2009

Attention: M Torres

Sample log in details:

Your Reference:	**E22913**		
No. of samples:	1 Soil		
Date samples received / completed instructions received	14/03/2016	/	14/03/2016

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	21/03/16	/	17/03/16
Date of Preliminary Report:	Not Issued		

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

Results Approved By:

Jacinta Hurst
Laboratory Manager

ACCREDITED FOR TECHNICAL COMPETENCE

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	143263-1
Your Reference	---------- -	QT1
Date Sampled	----------	10/03/2016
Type of sample		Soil
Date extracted	-	15/03/2016
Date analysed	-	16/03/2016
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
Surrogate aaa-Trifluorotoluene	%	90

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	143263-1
Your Reference	----------	QT1
	-	
Date Sampled	----------	10/03/2016
Type of sample		Soil
Date extracted	-	15/03/2016
Date analysed	-	16/03/2016
$TRHC_{10}$ - C_{14}	mg/kg	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100
$TRHC_{29}$ - 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
Surrogate o-Terphenyl	%	87

Acid Extractable metals in soil		
Our Reference:	UNITS	143263-1
Your Reference	----------	QT1
	-	
Date Sampled	----------	10/03/2016
Type of sample		Soil
Date prepared	-	15/03/2016
Date analysed	-	15/03/2016
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.4
Chromium	mg/kg	15
Copper	mg/kg	17
Lead	mg/kg	30
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	23

Moisture		
Our Reference:	UNITS	143263-1
Your Reference	----------	QT1
	-	
Date Sampled	----------	10/03/2016
Type of sample		Soil
Date prepared	-	15/03/2016
Date analysed	-	16/03/2016
Moisture	%	16

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/03/2016	[NT]	[NT]	LCS-2	15/03/2016
Date analysed	-			16/03/2016	[NT]	[NT]	LCS-2	16/03/2016
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	111%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	111%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	104%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	101%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	113%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	119%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	114%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	[NT]	[NT]	LCS-2	101%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/03/2016	[NT]	[NT]	LCS-2	15/03/2016
Date analysed	-			15/03/2016	[NT]	[NT]	LCS-2	15/03/2016
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	126%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	128%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	111%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	126%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	128%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	111%
Surrogate o-Terphenyl	%		Org-003	91	[NT]	[NT]	LCS-2	103%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			15/03/2016	[NT]	[NT]	LCS-4	15/03/2016
Date analysed	-			15/03/2016	[NT]	[NT]	LCS-4	15/03/2016
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-4	108%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-4	100%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	105%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	107%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	101%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-4	82%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	98%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	100%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

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

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

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Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 143540

Client:
Environmental Investigations
Suite 6.01, 55 Miller Street
Pyrmont
NSW 2009

Attention: M Torres

Sample log in details:

Your Reference:	**E22913, Petersham**
No. of samples:	2 Soils
Date samples received / completed instructions received	18/03/16 / 18/03/16

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	29/03/16 / 23/03/16
Date of Preliminary Report:	Not Issued

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

Results Approved By:

Jacinta Hurst
Laboratory Manager

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	143540-1	143540-2
Your Reference	---------- -	QT2	QT3
Date Sampled	----------	17/03/2016	17/03/2016
Type of sample		Soil	Soil
Date extracted	-	22/03/2016	22/03/2016
Date analysed	-	22/03/2016	22/03/2016
TRH C_6 - C_9	mg/kg	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	87	85

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	143540-1	143540-2
Your Reference	----------	QT2	QT3
	-		
Date Sampled	----------	17/03/2016	17/03/2016
Type of sample		Soil	Soil
Date extracted	-	21/03/2016	21/03/2016
Date analysed	-	22/03/2016	22/03/2016
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100
Surrogate o-Terphenyl	%	86	88

Acid Extractable metals in soil			
Our Reference:	UNITS	143540-1	143540-2
Your Reference	----------	QT2	QT3
	-		
Date Sampled	----------	17/03/2016	17/03/2016
Type of sample		Soil	Soil
Date prepared	-	21/03/2016	21/03/2016
Date analysed	-	21/03/2016	21/03/2016
Arsenic	mg/kg	13	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	4	39
Copper	mg/kg	17	20
Lead	mg/kg	25	75
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	<1	34
Zinc	mg/kg	3	81

Moisture Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	143540-1 QT2 17/03/2016 Soil	143540-2 QT3 17/03/2016 Soil
Date prepared	-	21/03/2016	21/03/2016
Date analysed	-	22/03/2016	22/03/2016
Moisture	%	15	6.8

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			22/03/2016	[NT]	[NT]	LCS-2	22/03/2016
Date analysed	-			22/03/2016	[NT]	[NT]	LCS-2	22/03/2016
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	122%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	122%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	106%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	107%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	121%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	137%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	125%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	91	[NT]	[NT]	LCS-2	92%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			21/03/2016	[NT]	[NT]	LCS-2	21/03/2016
Date analysed	-			21/03/2016	[NT]	[NT]	LCS-2	21/03/2016
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	96%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	109%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	110%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	96%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	109%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	110%
Surrogate o-Terphenyl	%		Org-003	89	[NT]	[NT]	LCS-2	96%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			21/03/2016	143540-1	21/03/2016 || 21/03/2016	LCS-3	21/03/2016
Date analysed	-			21/03/2016	143540-1	21/03/2016 || 21/03/2016	LCS-3	21/03/2016
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	143540-1	13 || 21 || RPD: 47	LCS-3	116%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	143540-1	<0.4 || <0.4	LCS-3	107%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	143540-1	4 || 4 || RPD: 0	LCS-3	112%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	143540-1	17 || 16 || RPD: 6	LCS-3	115%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	143540-1	25 || 22 || RPD: 13	LCS-3	106%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	143540-1	<0.1 || <0.1	LCS-3	91%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	143540-1	<1 || <1	LCS-3	107%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	143540-1	3 || 2 || RPD: 40	LCS-3	108%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

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

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

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Client	Environmental Investigations
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Project	**E22913-3-7, 13-17 Regent St Trafalgar St**
Order Number	**E22913**
Samples	11

LABORATORY DETAILS

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SGS Reference	**SE150560 R0**
Date Received	29/3/2016
Date Reported	5/4/2016

COMMENTS

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

PAH-The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.

SIGNATORIES

Andy Sutton
Senior Organic Chemist

Dong Liang
Metals/Inorganics Team Leader

Ly Kim Ha
Organic Section Head

VOCs in Water [AN433/AN434] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	**3**
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	**2.3**	**2.8**
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	**2.3**	**5.5**
Total BTEX	µg/L	3	<3	<3	<3	<3	**6**
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	<5	<5	<5
Chloromethane	µg/L	5	<5	<5	<5	<5	<5
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Bromomethane	µg/L	10	<10	<10	<10	<10	<10
Chloroethane	µg/L	5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	1	<1	<1	<1	<1	<1
Acetone (2-propanone)	µg/L	10	<10	<10	<10	<10	<10
Iodomethane	µg/L	5	<5	<5	<5	<5	<5
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acrylonitrile	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	<5	<5	<5
Allyl chloride	µg/L	2	<2	<2	<2	<2	<2
Carbon disulfide	µg/L	2	<2	<2	<2	<2	<2
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	<2	<2	<2
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl acetate	µg/L	10	<10	<10	<10	<10	<10
MEK (2-butanone)	µg/L	10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform (THM)	µg/L	0.5	**42**	<0.5	<0.5	**11**	**10**
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitropropane	µg/L	100	<100	<100	<100	<100	<100
Bromodichloromethane (THM)	µg/L	0.5	**15**	<0.5	<0.5	**0.8**	**0.7**
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane (THM)	µg/L	0.5	**4.0**	<0.5	<0.5	<0.5	<0.5
2-hexanone (MBK)	µg/L	5	<5	<5	<5	<5	<5
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	<1	<1	<1

VOCs in Water [AN433/AN434] Tested: 1/4/2016 (continued)

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-propylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	**0.6**	**6.7**
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	**2.8**
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	**1.1**
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-butylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 1/4/2016 (continued)

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009	TB1 WATER - 28/3/2016 SE150560.010
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<1	<1	<1
o-xylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Total BTEX	µg/L	3	<3	<3	<3	<3	<3
Naphthalene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (CFC-12)	µg/L	5	<5	<5	-	-	-
Chloromethane	µg/L	5	<5	<5	-	-	-
Vinyl chloride (Chloroethene)	µg/L	0.3	<0.3	<0.3	-	-	-
Bromomethane	µg/L	10	<10	<10	-	-	-
Chloroethane	µg/L	5	<5	<5	-	-	-
Trichlorofluoromethane	µg/L	1	<1	<1	-	-	-
Acetone (2-propanone)	µg/L	10	<10	<10	-	-	-
Iodomethane	µg/L	5	<5	<5	-	-	-
1,1-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Acrylonitrile	µg/L	0.5	<0.5	<0.5	-	-	-
Dichloromethane (Methylene chloride)	µg/L	5	<5	<5	-	-	-
Allyl chloride	µg/L	2	<2	<2	-	-	-
Carbon disulfide	µg/L	2	<2	<2	-	-	-
trans-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	<2	<2	-	-	-
1,1-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Vinyl acetate	µg/L	10	<10	<10	-	-	-
MEK (2-butanone)	µg/L	10	<10	<10	-	-	-
cis-1,2-dichloroethene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromochloromethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chloroform (THM)	µg/L	0.5	**21**	**29**	-	-	-
2,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,1-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
Carbon tetrachloride	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromomethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	<0.5	<0.5	-	-	-
2-nitropropane	µg/L	100	<100	<100	-	-	-
Bromodichloromethane (THM)	µg/L	0.5	**6.4**	**8.5**	-	-	-
MIBK (4-methyl-2-pentanone)	µg/L	5	<5	<5	-	-	-
cis-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,3-dichloropropene	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2-trichloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
Dibromochloromethane (THM)	µg/L	0.5	**1.2**	**1.6**	-	-	-
2-hexanone (MBK)	µg/L	5	<5	<5	-	-	-
1,2-dibromoethane (EDB)	µg/L	0.5	<0.5	<0.5	-	-	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,1,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
Chlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Bromoform (THM)	µg/L	0.5	<0.5	<0.5	-	-	-
cis-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-	-
Styrene (Vinyl benzene)	µg/L	0.5	<0.5	<0.5	-	-	-
1,1,2,2-tetrachloroethane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
trans-1,4-dichloro-2-butene	µg/L	1	<1	<1	-	-	-

VOCs in Water [AN433/AN434] Tested: 1/4/2016 (continued)

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009	TB1 WATER - 28/3/2016 SE150560.010
Isopropylbenzene (Cumene)	µg/L	0.5	<0.5	<0.5	-	-	-
Bromobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-propylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
2-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
4-chlorotoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3,5-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
tert-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trimethylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
sec-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,3-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,4-dichlorobenzene	µg/L	0.3	<0.3	<0.3	-	-	-
p-isopropyltoluene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
n-butylbenzene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2-dibromo-3-chloropropane	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,4-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Hexachlorobutadiene	µg/L	0.5	<0.5	<0.5	-	-	-
1,2,3-trichlorobenzene	µg/L	0.5	<0.5	<0.5	-	-	-
Total VOC	µg/L	10	-	-	-	-	-

VOCs in Water [AN433/AN434] Tested: 1/4/2016 (continued)

PARAMETER	UOM	LOR	TS1 WATER - 28/3/2016 SE150560.011
Benzene	µg/L	0.5	[122%]
Toluene	µg/L	0.5	[121%]
Ethylbenzene	µg/L	0.5	[116%]
m/p-xylene	µg/L	1	[114%]
o-xylene	µg/L	0.5	[117%]
Total Xylenes	µg/L	1.5	-
Total BTEX	µg/L	3	-
Naphthalene	µg/L	0.5	-
Dichlorodifluoromethane (CFC-12)	µg/L	5	-
Chloromethane	µg/L	5	-
Vinyl chloride (Chloroethene)	µg/L	0.3	-
Bromomethane	µg/L	10	-
Chloroethane	µg/L	5	-
Trichlorofluoromethane	µg/L	1	-
Acetone (2-propanone)	µg/L	10	-
Iodomethane	µg/L	5	-
1,1-dichloroethene	µg/L	0.5	-
Acrylonitrile	µg/L	0.5	-
Dichloromethane (Methylene chloride)	µg/L	5	-
Allyl chloride	µg/L	2	-
Carbon disulfide	µg/L	2	-
trans-1,2-dichloroethene	µg/L	0.5	-
MtBE (Methyl-tert-butyl ether)	µg/L	2	-
1,1-dichloroethane	µg/L	0.5	-
Vinyl acetate	µg/L	10	-
MEK (2-butanone)	µg/L	10	-
cis-1,2-dichloroethene	µg/L	0.5	-
Bromochloromethane	µg/L	0.5	-
Chloroform (THM)	µg/L	0.5	-
2,2-dichloropropane	µg/L	0.5	-
1,2-dichloroethane	µg/L	0.5	-
1,1,1-trichloroethane	µg/L	0.5	-
1,1-dichloropropene	µg/L	0.5	-
Carbon tetrachloride	µg/L	0.5	-
Dibromomethane	µg/L	0.5	-
1,2-dichloropropane	µg/L	0.5	-
Trichloroethene (Trichloroethylene,TCE)	µg/L	0.5	-
2-nitropropane	µg/L	100	-
Bromodichloromethane (THM)	µg/L	0.5	-
MIBK (4-methyl-2-pentanone)	µg/L	5	-
cis-1,3-dichloropropene	µg/L	0.5	-
trans-1,3-dichloropropene	µg/L	0.5	-
1,1,2-trichloroethane	µg/L	0.5	-
1,3-dichloropropane	µg/L	0.5	-
Dibromochloromethane (THM)	µg/L	0.5	-
2-hexanone (MBK)	µg/L	5	-
1,2-dibromoethane (EDB)	µg/L	0.5	-
Tetrachloroethene (Perchloroethylene,PCE)	µg/L	0.5	-
1,1,1,2-tetrachloroethane	µg/L	0.5	-
Chlorobenzene	µg/L	0.5	-
Bromoform (THM)	µg/L	0.5	-
cis-1,4-dichloro-2-butene	µg/L	1	-
Styrene (Vinyl benzene)	µg/L	0.5	-
1,1,2,2-tetrachloroethane	µg/L	0.5	-
1,2,3-trichloropropane	µg/L	0.5	-
trans-1,4-dichloro-2-butene	µg/L	1	-

VOCs in Water [AN433/AN434] Tested: 1/4/2016 (continued)

PARAMETER	UOM	LOR	TS1 WATER - 28/3/2016 SE150560.011
Isopropylbenzene (Cumene)	µg/L	0.5	-
Bromobenzene	µg/L	0.5	-
n-propylbenzene	µg/L	0.5	-
2-chlorotoluene	µg/L	0.5	-
4-chlorotoluene	µg/L	0.5	-
1,3,5-trimethylbenzene	µg/L	0.5	-
tert-butylbenzene	µg/L	0.5	-
1,2,4-trimethylbenzene	µg/L	0.5	-
sec-butylbenzene	µg/L	0.5	-
1,3-dichlorobenzene	µg/L	0.5	-
1,4-dichlorobenzene	µg/L	0.3	-
p-isopropyltoluene	µg/L	0.5	-
1,2-dichlorobenzene	µg/L	0.5	-
n-butylbenzene	µg/L	0.5	-
1,2-dibromo-3-chloropropane	µg/L	0.5	-
1,2,4-trichlorobenzene	µg/L	0.5	-
Hexachlorobutadiene	µg/L	0.5	-
1,2,3-trichlorobenzene	µg/L	0.5	-
Total VOC	µg/L	10	-

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
TRH C6-C9	µg/L	40	<40	<40	<40	<40	**100**
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50	**160**
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	**150**

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009
TRH C6-C9	µg/L	40	<40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
TRH C10-C14	µg/L	50	<50	<50	<50	**120**	**95**
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	**140**	**110**
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650	<650

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009
TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500
TRH C10-C36	µg/L	450	<450	<450	<450	<450
TRH C10-C40	µg/L	650	<650	<650	<650	<650

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
Naphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.3↑
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007
Naphthalene	µg/L	0.1	<0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/L	0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
Arsenic, As	µg/L	1	<1	1	<1	<1	<1
Cadmium, Cd	µg/L	0.1	0.5	<0.1	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	3	5	2	<1	<1
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Nickel, Ni	µg/L	1	9	2	13	3	3
Zinc, Zn	µg/L	5	230	190	68	12	12

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009
Arsenic, As	µg/L	1	1	3	<1	<1
Cadmium, Cd	µg/L	0.1	<0.1	<0.1	0.4	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1
Copper, Cu	µg/L	1	4	2	11	<1
Lead, Pb	µg/L	1	<1	<1	<1	<1
Nickel, Ni	µg/L	1	9	3	28	<1
Zinc, Zn	µg/L	5	35	330	250	100

Mercury (dissolved) in Water [AN311/AN312] Tested: 1/4/2016

PARAMETER	UOM	LOR	6WBH1M WATER - 28/3/2016 SE150560.001	6WBH4M WATER - 28/3/2016 SE150560.002	6WBH6M WATER - 29/3/2016 SE150560.003	6WBH9M WATER - 28/3/2016 SE150560.004	6WBH10M WATER - 28/3/2016 SE150560.005
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

PARAMETER	UOM	LOR	6WBH11M WATER - 28/3/2016 SE150560.006	6WBH15M WATER - 28/3/2016 SE150560.007	QR1 WATER - 28/3/2016 SE150560.008	QD1 WATER - 28/3/2016 SE150560.009
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN311/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.
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 not corrected for Naphthalene.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions 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).
AN433/AN434/AN410	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.
AN433/AN434	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.

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 Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

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CERTIFICATE OF ANALYSIS 143871

Client:

Environmental Investigations
Suite 6.01, 55 Miller Street
Pyrmont
NSW 2009

Attention: Mariana Torres

Sample log in details:

Your Reference:	**E22913, Regent St & Trafalgar St**
No. of samples:	1 Water
Date samples received / completed instructions received	29/03/16 / 29/03/16

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	5/04/16 / 1/04/16
Date of Preliminary Report:	Not Issued

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Results Approved By:

Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	143871-1
Your Reference	---------- -	QT1
Date Sampled	----------	28/03/2016
Type of sample		Water
Date extracted	-	29/03/2016
Date analysed	-	30/03/2016
$TRHC_6$ - C_9	µg/L	<10
$TRHC_6$ - C_{10}	µg/L	<10
$TRHC_6$ - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	106
Surrogate toluene-d8	%	103
Surrogate 4-BFB	%	100

svTRH (C10-C40) in Water		
Our Reference:	UNITS	143871-1
Your Reference	----------	QT1
	-	
Date Sampled	----------	28/03/2016
Type of sample		Water
Date extracted	-	30/03/2016
Date analysed	-	30/03/2016
$TRHC_{10}$ - C_{14}	µg/L	<50
$TRHC_{15}$ - C_{28}	µg/L	<100
$TRHC_{29}$ - C_{36}	µg/L	<100
$TRH{>}C_{10}$ - C_{16}	µg/L	<50
$TRH{>}C_{10}$ - C_{16} less Naphthalene (F2)	µg/L	<50
$TRH{>}C_{16}$ - C_{34}	µg/L	<100
$TRH{>}C_{34}$ - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	79

HM in water - dissolved		
Our Reference:	UNITS	143871-1
Your Reference	----------	QT1
	-	
Date Sampled	----------	28/03/2016
Type of sample		Water
Date prepared	-	30/03/2016
Date analysed	-	30/03/2016
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	3
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	1
Zinc-Dissolved	µg/L	56

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			29/03/2016	[NT]	[NT]	LCS-W2	29/03/2016
Date analysed	-			30/03/2016	[NT]	[NT]	LCS-W2	30/03/2016
TRH C_6 - C_9	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W2	110%
TRH C_6 - C_{10}	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W2	110%
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	112%
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	111%
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	106%
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	LCS-W2	111%
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W2	110%
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	105	[NT]	[NT]	LCS-W2	102%
Surrogate toluene-d8	%		Org-016	100	[NT]	[NT]	LCS-W2	101%
Surrogate 4-BFB	%		Org-016	104	[NT]	[NT]	LCS-W2	101%

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			30/03/2016	[NT]	[NT]	LCS-W1	30/03/2016
Date analysed	-			30/03/2016	[NT]	[NT]	LCS-W1	30/03/2016
TRH C_{10} - C_{14}	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	108%
TRH C_{15} - C_{28}	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	129%
TRH C_{29} - C_{36}	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	100%
TRH>C_{10} - C_{16}	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	108%
TRH>C_{16} - C_{34}	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	129%
TRH>C_{34} - C_{40}	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	100%
Surrogate o-Terphenyl	%		Org-003	83	[NT]	[NT]	LCS-W1	73%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			30/03/2016	143871-1	30/03/2016 || 30/03/2016	LCS-W1	30/03/2016
Date analysed	-			30/03/2016	143871-1	30/03/2016 || 30/03/2016	LCS-W1	30/03/2016
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	<1 || <1	LCS-W1	98%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	143871-1	<0.1 || <0.1	LCS-W1	101%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	<1 || <1	LCS-W1	92%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	3 || 3 || RPD: 0	LCS-W1	102%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	<1 || <1	LCS-W1	101%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	143871-1	<0.05 || [N/T]	LCS-W1	80%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	1 || 1 || RPD: 0	LCS-W1	96%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	143871-1	56 || 58 || RPD: 4	LCS-W1	96%

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

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

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Appendix J
QA/QC Assessment

J1 QUALITY CONTROL PROGRAM

J1.1 INTRODUCTION

For the purpose of assessing the quality of data presented in this Detailed Site Investigation, 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 QC samples. Details of the field and laboratory QC samples are provided, with the allowable acceptance ranges for the data presented in Table J-1

Table J-1 Sampling Data Quality Indicators

QA/QC Measures	Data Quality Indicators
Precision – A quantitative measure of the variability (or reproducibility) of data	Data precision would be assessed by reviewing the performance of blind field duplicate sample sets, through calculation of relative percentage differences (RPD). Data precision would be deemed acceptable if RPDs are found to be less than 30%. RPDs that exceed this range may be considered acceptable where: • Results are less than 10 times the limits of reporting (LOR); • Results are less than 20 times the LOR and the RPD is less than 50%; or • Heterogeneous materials or volatile compounds are encountered.
Accuracy – A quantitative measure of the closeness of reported data to the "true" value	Data accuracy would be assessed through the analysis of: • Method blanks, which are analysed for the analytes targeted in the primary samples; • Matrix spike and matrix spike duplicate sample sets; • Laboratory control samples; and • Calibration of instruments against known standards.
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory is representative of conditions encountered in the field, the laboratory would carry out the following: • Blank samples will be run in parallel with field samples to confirm there are no unacceptable instances of laboratory artefacts; • Review of relative percentage differences (RPD) values for field and laboratory duplicates to provide an indication that the samples are generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; and • The appropriateness of collection methodologies, handling, storage and preservation techniques will be assessed to ensure/confirm there was minimal opportunity for sample interference or degradation (i.e. volatile loss during transport due to incorrect preservation / transport methods).
Completeness – A measure of the amount of useable data from a data collection activity	Analytical data sets acquired during the assessment will be evaluated as complete, upon confirmation that: • Standard operating procedures (SOPs) for sampling protocols were adhered to; and • Copies of all COC documentation are presented, reviewed and found to be properly completed. It can therefore be considered whether the proportion of "useable data" generated in the data collection activities is sufficient for the purposes of the land use assessment.

QA/QC Measures	Data Quality Indicators
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Given that a reported data set can comprise several data sets from separate sampling episodes, issues of comparability between data sets are reduced through adherence to SOPs and regulator-endorsed or published guidelines and standards on each data gathering activity. In addition the data will be collected by experienced samplers and NATA-accredited laboratory methodologies will be employed in all laboratory testing programs.

J1.2 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.

J2 FIELD QA/QC DATA EVALUATION

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

- Blind field duplicate;
- Inter-laboratory duplicate;
- Trip blank;
- Trip spike; and
- Rinsate blank.

Analytical results for tested soil QA/QC samples, including the calculated RPD values between primary and duplicate samples, are presented in Table J-2

J2.1 Soil Investigation

J2.1.1 Blind Field Duplicate

Three blind field duplicate sample (QD1, QD2 and QD3) were collected from primary samples BH107_0.20-0.4, BH18_0.4-0.5 and BH25_0.3-0.4 respectively during the soil investigation. The preparation of the duplicate samples 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 was analysed for TRH, BTEX and selected heavy metals. The RPD values calculated were found to be within the Data Acceptance Criteria (Appendix K, Table QC5), with the exception of mercury (100%) for duplicate QD1 and copper (62.07%) and lead (96.30%) for duplicate QD2. Although noticeable differences were noted on concentrations between the primary sample and the BFD (mercury and lead in particular), given the concentrations in both samples were within the adopted criteria, the conclusion drawn in this report concerning condition of site soil would not be affected.

J2.1.3 Inter-Laboratory Duplicate

Three samples QT-1, QT-1 and QT-3 were collected as an inter-laboratory duplicate (ILD) of the primary samples BH7_0.2-0.4, BH18_0.4-0.5 and BH25_0.3-0.4 respectively. The preparation of the ILD samples were identical to the BFD samples, as described above, and was analysed for TRHs, BTEX, and selected heavy metals. The calculated RPD values were within the Data Acceptance Criteria, with the exception of mercury (300%) for QT1, arsenic (105.88 %), chromium (62.3 %) and lead (112.50%) for QT2 and chromium (78.57%), lead (66.67%), mercury (75%) and nickel (95.65%) . Although noticeable differences were noted on concentrations between the primary sample and the BFD (mercury and lead in particular), given the concentrations in both samples were within the adopted criteria, the conclusion drawn in this report concerning condition of site soil would not be affected.

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.

J2.1.3 Trip Blank

One trip blank (TB-1) sample was prepared and analysed by the primary laboratory (SGS) for BTEX. Analytical results for this sample were below the laboratory LOR, indicating that satisfactory sample transport and handling conditions were achieved.

J2.1.5 Rinsate Blank

One rinsate blank (QR-1) sample was submitted to the primary laboratory for TRHs, BTEX and selected heavy metals, the results for which were reported below laboratory LOR with the exception of zinc. Zinc (78 ug/L). Given other heavy metals present in the primary soil samples are not reported in the rinsate blank, it is unlikely the zinc detected is a result of cross contamination between sampling points, and is more likely related to contamination of laboratory supplied rinsate water. In addition, given the low concentrations detected, the validity of the soil data was not considered affected. Decontamination procedures were satisfactory.

J2.2 GROUNDWATER INVESTIGATION

J2.2.1 Blind Field Duplicate (BFD)

One blind field duplicate sample (GWQD1) was collected from the primary sample BH11M. The preparation of the duplicate sample involved the decanting of the groundwater collected from the respective groundwater monitoring well into two separate groups of appropriately labelled sampling containers. Volumes were split equally between the groups of sampling bottles such that the sample contained in each individual bottle, contained a similar proportion of each water volume. It should be noted that the sample was not mixed prior to decanting, in order to preserve the concentrations of volatiles potentially present within the sample. The duplicate sample was then presented blind to the

primary laboratory (SGS) to avoid any potential analytical bias. The sample was analysed for TRH, BTEX and selected heavy metals. The RPD values calculated for the analytes tested were found to be generally within the Data Acceptance Criteria (DAC), except copper (133.33%), nickel (168.42%) and zinc (96.30%). Given the higher results were reported in the primary sample for copper and nickel, the conclusion drawn in regard to prevailing groundwater conditions on-site are not considered to be affected.

J2.2.2 Inter Laboratory Duplicate (ILD)

One inter-laboratory duplicate sample (GWQT1) was collected from the primary sample GWBH11M. The preparation of the duplicate sample was identical to the blind field duplicate described above, and was analysed for TRH, BTEX and selected heavy metals. The RPD values calculated for the analytes tested were found to be within the Data Acceptance Criteria (DAC), with the exception of nickel (160%). As discussed in the section above, the differences in TRH concentrations were not considered to affect the validity of the drawn conclusion, as higher concentrations were used in the assessment.

J2.2.3 Trip Blank

One trip blank sample (TB1), prepared with de-ionised water supplied by the primary laboratory, was analysed for BTEX by the primary laboratory. The TB1 sample results were reported below the laboratory LOR, suggesting the sample transportation and storage procedure was satisfactory.

J2.2.4 Rinsate Blank

One rinsate blank (GWQR1) was submitted to the primary laboratory for TRH, BTEX and selected heavy metals analyses. The QR1 sample results were reported below the laboratory LOR, with the exception of copper (11 µg/L), nickel (28 µg/L) and zinc (250 µg/L) .

It is unlikely the concentration detected was a result of cross contamination between sampling points, and is more likely related to contamination of laboratory supplied rinsate water. Therefore it was considered the decontamination procedure of the sampling equipment was satisfactory.

J2.3 Assessment of Field QA/QC Data

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

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 investigation works to be appropriate and the results to be acceptable.

J3 LABORATORY QA/QC

J3.1 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 (Appendix G), 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. The laboratory QA/QC reports are included in Appendix G.

J3.2 SAMPLE HOLDING TIMES

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

J3.3 TEST METHODS AND PRACTICAL QUANTITATION LIMITS (PQLS)

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

J3.4 METHOD BLANKS

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

J3.5 LABORATORY DUPLICATE SAMPLES

The Laboratory Duplicate Samples for the analysis batches were within acceptable ranges and conformed to the DAC, except for:

- Lead in the sample SE149887.005, which was attributed to sample heterogeneity;
- Zinc in sample SE150249.014 attributed to sample heterogeneity.

J3.6 LABORATORY CONTROL SAMPLES

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

J3.7 MATRIX SPIKES

The matrix spikes of the analysis batches were within acceptable ranges and conformed to the DAC, with the exception of:

- TRH C15-C28, TRH C29-C36 and TRH >C16-C34 (F3) in sample SE149945.001 which was attributed to sample heterogeneity

- Copper, lead, and zinc in sample SE150039.005 Recovery attributed to matrix interference.
- Copper and lead in sample SE150225.024 attributed to sample heterogeneity.

zinc for sample SE 148935.026 due to matrix interference. Further investigation of this exceedance revealed that the sample SE 148935.026 formed part of a different project and was analysed within this report as part of the analysis batch number required by NATA quality procedures.

J3.8 Concluding Remark

Based on the laboratory QA/QC results, EI considers that although a small number of discrepancies were identified, the data generally confirms that the analytical results for soil and groundwater laboratory testing were valid and useable for interpretation purposes.

Sample identification	Description	TRH				BTEX				Heavy Metals							
		F1*	F2**	F3 ($>C_{16}$ - C_{34})	F4 ($>C_{34}$ - C_{40})	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																	
BH7_0.2-0.4	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	15	18	26	0.01	3	18
QD1	Duplicate of BH7_0.2-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	7	0.4	13	21	34	0.03	2.3	27
RPD		*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*15.38*	*36.36*	*14.29*	*15.38*	*26.67*	100.00	*12.24*	*40.00*
BH18_0.4-0.5	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	<0.3	2	19	7	<0.01	<0.5	4
QD2	Duplicate of BH18_0.4-0.5	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	5	<0.3	2	10	20	<0.01	<0.5	2
RPD		*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*22.22*	*0.00*	*13.33*	62.07	96.30	*0.00*	*0.00*	*41.38*
BH25_0.3-0.4	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	0	17	20	150	0.19	12	120
QD3	Duplicate of BH25_0.3-0.4	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	0.4	16	22	200	0.13	12.0	170
RPD		*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*6.06*	*9.52*	*28.57*	*37.50*	*0.00*	*34.48*
Inter-laboratory Duplicate																	
BH7_0.2-0.4	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	6	<0.3	15	18	26	0.01	3	18
QT1	Duplicate of BH7_0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	7	0.4	15	17	30	<0.1	3.0	23
RPD		*0.00*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*15.38*	*36.36*	*0.00*	*5.71*	*14.29*	300.00	*14.29*	*24.39*
BH18_0.4-0.5	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	<0.3	2	19	7	<0.01	<0.5	4
QT2	Duplicate of BH18_0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	13	<0.4	4	17	25	<0.1	<1	3
RPD		*0.00*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	105.88	*NA*	62.30	*11.11*	112.50	*NA*	*NA*	*15.38*
BH25_0.3-0.4	Fill Materials	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	4	0	17	20	150	0.19	12	120
QT3	Duplicate of BH25_0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<0.3	<4	<0.4	39	20	75	<0.1	34.0	81
RPD		*0.00*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*0.00*	*0.00*	*0.00*	78.57	*0.00*	66.67	75.00	95.65	*38.81*
Trip Blank																	
TB1	Soil Sample Prepared by SGS	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.3	NA	NA	NA	NA	NA	NA	NA	NA
QTB1	Soil Sample Prepared by SGS	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.3	NA	NA	NA	NA	NA	NA	NA	NA
Rinsate Blank																	
QR1	De-ionised Water	<50	<60	<500	<500	<0.5	1	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.0001	<1	78

Indicates values where a single result is found to be less than detection, with the duplicate sample found to be over the detection limit.

RPD exceeds 30-50% range referenced from AS4482.1 (2005)

Notes:

All soil results are reported in mg/kg .

* F1 was obtained by subtracting the sum of BTEX concentrations from the C6-C10 fraction.

** F2 was obtained by subtracting naphthalene from the > C10-C16 fraction.

Sample identification	Description	TRH				BTEX				Heavy Metals							
		F1*	F2**	F3 ($>C_{16}$ - C_{34})	F4 ($>C_{34}$ - C_{40})	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																	
GWBH11M	Groundwater	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	1	<0.1	<1	4	<1	<0.0001	9	35
GWQD1	Duplicate of BH11M	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.0001	<1	100
RPD		*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	133.33	*0.00*	*0.00*	168.42	96.30
GWBH11M	Groundwater	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	1	<0.1	<1	4	<1	<0.0001	9	35
GWQT1	Duplicate of BH11M	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.1	<1	3	<1	<0.05	1	56
RPD		*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*0.00*	*0.00*	*0.00*	*28.57*	*0.00*	*NA*	160.00	*46.15*
Trip Blank																	
TB1	De-ionised water	-	-	-	-	<0.5	<0.5	<0.5	<1.5	-	-	-	-	-	-	-	-
Rinsate Blank																	
GWQR1	De-ionised water	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	0.4	<1	11	<1	<0.0001	28	250
Spike																	
TS1	Sample Prepared by SGS					122%	121%	166%	117%								

52.17 Indicates values where a single result is found to be less than detection, with the duplicate sample found to be over the detection limit.

82.35 RPD exceeds 30-50% range referenced from AS4482.1 (2005)

Notes:

All water results are reported in µg/L.

* F1 was obtained by subtracting the sum of BTEX concentrations from the C6-C10 fraction.

** F2 was obtained by subtracting naphthalene from the > C10-C16 fraction.

Appendix K
Laboratory QA/QC Policies and DQOs

STATEMENT OF QA/QC PERFORMANCE

SE149872 R0

CLIENT DETAILS

Contact	Mariana Torres
Client	Environmental Investigations
Address	Suite 6.01, 55 Miller Street NSW 2009
Telephone	02 9516 0722
Facsimile	02 9516 0741
Email	mariana.torres@eiaustralia.com.au
Project	**E22913 Regent St&Trafalgar St Petersham**
Order Number	**E22913**
Samples	8

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	**SE149872 R0**
Date Received	08 Mar 2016
Date Reported	15 Mar 2016

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	Total Recoverable Metals in Soil by ICPOES	1 item

SAMPLE SUMMARY

Sample counts by matrix	8 Soils	Type of documentation received	COC
Date documentation received	8/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE149872 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
BH1M_0.5-0.6	SE149872.006	LB097035	04 Mar 2016	08 Mar 2016	04 Mar 2017	14 Mar 2016	04 Mar 2017	15 Mar 2016
BH4_0.2-0.4	SE149872.007	LB097035	07 Mar 2016	08 Mar 2016	07 Mar 2017	14 Mar 2016	07 Mar 2017	15 Mar 2016
BH15_0.2-0.4	SE149872.008	LB097035	07 Mar 2016	08 Mar 2016	07 Mar 2017	14 Mar 2016	07 Mar 2017	15 Mar 2016

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096999	04 Mar 2016	08 Mar 2016	01 Apr 2016	14 Mar 2016	01 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096999	07 Mar 2016	08 Mar 2016	04 Apr 2016	14 Mar 2016	04 Apr 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096999	07 Mar 2016	08 Mar 2016	04 Apr 2016	14 Mar 2016	04 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096999	07 Mar 2016	08 Mar 2016	04 Apr 2016	14 Mar 2016	04 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096999	07 Mar 2016	08 Mar 2016	04 Apr 2016	14 Mar 2016	04 Apr 2016	14 Mar 2016

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096778	04 Mar 2016	08 Mar 2016	18 Mar 2016	09 Mar 2016	14 Mar 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096778	07 Mar 2016	08 Mar 2016	21 Mar 2016	09 Mar 2016	14 Mar 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096778	07 Mar 2016	08 Mar 2016	21 Mar 2016	09 Mar 2016	14 Mar 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096778	07 Mar 2016	08 Mar 2016	21 Mar 2016	09 Mar 2016	14 Mar 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096778	07 Mar 2016	08 Mar 2016	21 Mar 2016	09 Mar 2016	14 Mar 2016	14 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096814	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096814	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

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
BH1M_0.5-0.6	SE149872.001	LB096814	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096814	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	15 Mar 2016

Total Recoverable Metals in Soil by ICPOES

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB097014	04 Mar 2016	08 Mar 2016	31 Aug 2016	14 Mar 2016	31 Aug 2016	15 Mar 2016
BH4_0.2-0.4	SE149872.002	LB097014	07 Mar 2016	08 Mar 2016	03 Sep 2016	14 Mar 2016	03 Sep 2016	15 Mar 2016
BH4_1.5-1.95	SE149872.003	LB097014	07 Mar 2016	08 Mar 2016	03 Sep 2016	14 Mar 2016	03 Sep 2016	15 Mar 2016
BH15_0.2-0.4	SE149872.004	LB097014	07 Mar 2016	08 Mar 2016	03 Sep 2016	14 Mar 2016	03 Sep 2016	15 Mar 2016
BH15_1.8-2.0	SE149872.005	LB097014	07 Mar 2016	08 Mar 2016	03 Sep 2016	14 Mar 2016	03 Sep 2016	15 Mar 2016

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
BH1M_0.5-0.6	SE149872.001	LB096814	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

HOLDING TIME SUMMARY

SE149872 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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH4_1.5-1.95	SE149872.003	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096814	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096808	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1M_0.5-0.6	SE149872.001	LB096808	04 Mar 2016	08 Mar 2016	18 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_0.2-0.4	SE149872.002	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH4_1.5-1.95	SE149872.003	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_0.2-0.4	SE149872.004	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016
BH15_1.8-2.0	SE149872.005	LB096808	07 Mar 2016	08 Mar 2016	21 Mar 2016	10 Mar 2016	19 Apr 2016	14 Mar 2016

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]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	103
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	95
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	86

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	96
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	92
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	100
d14-p-terphenyl (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	118
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	114
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	120

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	70 - 130%	96
	BH4_0.2-0.4	SE149872.002	%	70 - 130%	92
	BH4_1.5-1.95	SE149872.003	%	70 - 130%	84
	BH15_0.2-0.4	SE149872.004	%	70 - 130%	100
	BH15_1.8-2.0	SE149872.005	%	70 - 130%	92
d14-p-terphenyl (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	70 - 130%	118
	BH4_0.2-0.4	SE149872.002	%	70 - 130%	114
	BH4_1.5-1.95	SE149872.003	%	70 - 130%	116
	BH15_0.2-0.4	SE149872.004	%	70 - 130%	120
	BH15_1.8-2.0	SE149872.005	%	70 - 130%	108
d5-nitrobenzene (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	70 - 130%	80
	BH4_0.2-0.4	SE149872.002	%	70 - 130%	82
	BH4_1.5-1.95	SE149872.003	%	70 - 130%	74
	BH15_0.2-0.4	SE149872.004	%	70 - 130%	88
	BH15_1.8-2.0	SE149872.005	%	70 - 130%	90

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	103
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	95
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	86

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	99
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	96
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	90
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	98
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	84
d4-1,2-dichloroethane (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	72
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	73
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	70
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	77
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	73
d8-toluene (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	71
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	72
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	85
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	72
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	78
Dibromofluoromethane (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	70
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	75
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	74
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	71
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	77

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units

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/AN434/AN410**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	99
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	96
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	95
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	98
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	91
d4-1,2-dichloroethane (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	72
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	73
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	72
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	77
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	70
d8-toluene (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	71
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	72
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	71
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	72
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	72
Dibromofluoromethane (Surrogate)	BH1M_0.5-0.6	SE149872.001	%	60 - 130%	70
	BH4_0.2-0.4	SE149872.002	%	60 - 130%	75
	BH4_1.5-1.95	SE149872.003	%	60 - 130%	71
	BH15_0.2-0.4	SE149872.004	%	60 - 130%	71
	BH15_1.8-2.0	SE149872.005	%	60 - 130%	76

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 in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB096999.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096814.001		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)	%	-	97

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096814.001		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)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB096814.001	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
	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

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
LB096814.001		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)	%	-	74
		2-fluorobiphenyl (Surrogate)	%	-	86
		d14-p-terphenyl (Surrogate)	%	-	108

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096814.001		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)	%	-	97

Total Recoverable Metals in Soil by ICPOES

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

Sample Number	Parameter	Units	LOR	Result
LB097014.001	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

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB096814.001	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096808.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096808.001	Halogenated Aliphatics	1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	74
		d4-1,2-dichloroethane (Surrogate)	%	-	74
		d8-toluene (Surrogate)	%	-	85
		Bromofluorobenzene (Surrogate)	%	-	89
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

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.

Volatile Petroleum Hydrocarbons in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434/AN410**

Sample Number		Parameter	Units	LOR	Result
LB096808.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	73
		d4-1,2-dichloroethane (Surrogate)	%	-	73
		d8-toluene (Surrogate)	%	-	71

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 in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149872.004	LB096999.014	Mercury	mg/kg	0.01	0.10	0.08	88	22
SE149889.002	LB096999.024	Mercury	mg/kg	0.01	0.0237457868	0.0191470981	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149872.001	LB096778.011	% Moisture	%w/w	0.5	19	17	36	9
SE149887.005	LB096778.022	% Moisture	%w/w	0.5	22.7118644067	21.5170278637	35	5
SE149889.007	LB096778.030	% Moisture	%w/w	0.5	13.5251798561	13.3223684210	37	2

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149919.003	LB096814.026		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.133	30	1

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149917.004	LB096814.028		Dichlorvos	mg/kg	0.5	<0.5	0.05	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.02	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0.08	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0.01	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.43	30	5
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.56	30	0
SE149919.003	LB096814.026		Dichlorvos	mg/kg	0.5	<0.5	0.05	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0.08	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0	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.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149919.003	LB096814.026		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0.01	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.43	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.54	30	0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149874.005	LB096814.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	4
SE149919.003	LB096814.026		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	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	200	0
			Anthracene	mg/kg	0.1	<0.1	0	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0	200	0
			Chrysene	mg/kg	0.1	<0.1	0	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	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	0.38	30	5
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.43	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.54	30	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.

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149919.003	LB096814.026		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	0.133	30	1

Total Recoverable Metals in Soil by ICPOES

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149872.003	LB097014.014		Arsenic, As	mg/kg	3	10	11	40	15
			Cadmium, Cd	mg/kg	0.3	0.4	0.5	95	24
			Chromium, Cr	mg/kg	0.3	6.9	8.0	37	14
			Copper, Cu	mg/kg	0.5	31	35	32	12
			Lead, Pb	mg/kg	1	21	21	35	0
			Nickel, Ni	mg/kg	0.5	<0.5	<0.5	200	0
			Zinc, Zn	mg/kg	0.5	5.7	6.2	64	9
SE149887.005	LB097014.023		Arsenic, As	mg/kg	3	17.814065636	17.303630985	36	3
			Cadmium, Cd	mg/kg	0.3	0.79443626160	0.7420641514	69	7
			Chromium, Cr	mg/kg	0.3	28.251972593	25.782707702	32	9
			Copper, Cu	mg/kg	0.5	13.435765252	97.471612246	30	15
			Lead, Pb	mg/kg	1	43.706833158	40.708247826	30	33 ②
			Nickel, Ni	mg/kg	0.5	18.814714803	18.897315739	33	0
			Zinc, Zn	mg/kg	0.5	05.861983939	38.842406521	31	10

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149874.005	LB096814.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE149919.003	LB096814.026		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	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149876.001	LB096808.010	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149876.001	LB096808.010	Halogenated	Bromomethane	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		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
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	3.6	50	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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149876.001	LB096808.010	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	3.6	50	0
			d8-toluene (Surrogate)	mg/kg	-	3.8	4.2	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.1	4.6	50	11
		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
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	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 %
LB096999.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	99

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096814.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	85
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	85
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	91
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	87
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	84
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	91
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.12	0.15	40 - 130	83

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096814.002		Dichlorvos	mg/kg	0.5	1.5	2	60 - 140	73
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	107
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.2	2	60 - 140	109
		Ethion	mg/kg	0.2	1.8	2	60 - 140	92
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096814.002		Naphthalene	mg/kg	0.1	4.7	4	60 - 140	117
		Acenaphthylene	mg/kg	0.1	4.7	4	60 - 140	119
		Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	112
		Phenanthrene	mg/kg	0.1	4.6	4	60 - 140	116
		Anthracene	mg/kg	0.1	4.8	4	60 - 140	120
		Fluoranthene	mg/kg	0.1	4.4	4	60 - 140	111
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	107
		Benzo(a)pyrene	mg/kg	0.1	5.2	4	60 - 140	130
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096814.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	112

Total Recoverable Metals in Soil by ICPOES

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097014.002	Arsenic, As	mg/kg	3	57	50	80 - 120	115
	Cadmium, Cd	mg/kg	0.3	56	50	80 - 120	112
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	54	50	80 - 120	108
	Lead, Pb	mg/kg	1	56	50	80 - 120	112
	Nickel, Ni	mg/kg	0.5	52	50	80 - 120	104
	Zinc, Zn	mg/kg	0.5	54	50	80 - 120	109

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096814.002		TRH C10-C14	mg/kg	20	49	40	60 - 140	123
		TRH C15-C28	mg/kg	45	48	40	60 - 140	120
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	108
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	49	40	60 - 140	123
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	115
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	105

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR

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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096808.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	1.9	2.56	60 - 140	75
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	2.8	2.56	60 - 140	111
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.7	2.56	60 - 140	105
	Halogenated	Chlorobenzene	mg/kg	0.1	3.0	2.56	60 - 140	115
	Monocyclic	Benzene	mg/kg	0.1	2.9	2.9	60 - 140	100
	Aromatic	Toluene	mg/kg	0.1	2.8	2.9	60 - 140	97
		Ethylbenzene	mg/kg	0.1	2.7	2.9	60 - 140	94
		m/p-xylene	mg/kg	0.2	5.6	5.8	60 - 140	97
		o-xylene	mg/kg	0.1	2.9	2.9	60 - 140	101
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	5	60 - 140	87
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	5	60 - 140	84
		d8-toluene (Surrogate)	mg/kg	-	4.9	5	60 - 140	97
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
	Trihalomethan	Chloroform	mg/kg	0.1	2.6	2.56	60 - 140	100

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096808.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	81
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	65
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	5	60 - 140	78
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5	60 - 140	80
		d8-toluene (Surrogate)	mg/kg	-	4.4	5	60 - 140	87
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.2	5	60 - 140	104
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	82

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 in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149841.001	LB096999.004	Mercury	mg/kg	0.01	0.25	0.06	0.2	93

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE149872.001	LB096814.029		Dichlorvos	mg/kg	0.5	<0.5	2	90
			Dimethoate	mg/kg	0.5	<0.5	-	-
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	2	116
			Fenitrothion	mg/kg	0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	2	117
			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	108
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	102
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	-	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE149872.001	LB096814.029		Naphthalene	mg/kg	0.1	<0.1	4	117
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	102
			Acenaphthene	mg/kg	0.1	<0.1	4	119
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	122
			Anthracene	mg/kg	0.1	<0.1	4	123
			Fluoranthene	mg/kg	0.1	<0.1	4	126
			Pyrene	mg/kg	0.1	<0.1	4	127
			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	123
			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	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	-	0.4	-	88
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	-	102
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	-	108

Total Recoverable Metals in Soil by ICPOES

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149739A.14	LB097014.004	Lead, Pb	mg/kg	1	55	6	50	98

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE149872.001	LB096814.027	TRH C10-C14	mg/kg	20	<20	40	123
		TRH C15-C28	mg/kg	45	<45	40	118
		TRH C29-C36	mg/kg	45	<45	40	100
		TRH C37-C40	mg/kg	100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	-	-
		TRH C10-C40 Total	mg/kg	210	<210	-	-

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE149872.001	LB096814.027	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	120
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	110
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE149872.003	LB096808.011		TRH C6-C10	mg/kg	25	<25	24.65	82
			TRH C6-C9	mg/kg	20	<20	23.2	66
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.6	-	92
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	3.6	-	97
			d8-toluene (Surrogate)	mg/kg	-	3.5	-	88
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	-	91
		VPH F	Benzene (F0)	mg/kg	0.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	98

MATRIX SPIKE DUPLICATES

SE149872 R0

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 tthe performance of this service.
-	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.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service, available on request and accessible at http://www.sgs.com/en/terms-and-conditions. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE149963 R0

CLIENT DETAILS

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Order Number	**E22913**
Samples	12

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SGS Reference	**SE149963 R0**
Date Received	10 Mar 2016
Date Reported	17 Mar 2016

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:

Matrix Spike	TRH (Total Recoverable Hydrocarbons) in Soil	3 items

SAMPLE SUMMARY

Sample counts by matrix	12 Soil	Type of documentation received	COC
Date documentation received	10/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	7.0°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE149963 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
BH2_1.2-1.5	SE149963.002	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH3_0.8-1.0	SE149963.004	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH2_0.2-0.4	SE149963.009	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH3_0.2-0.4	SE149963.010	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH9M_0.2-0.3	SE149963.011	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016
BH11M_0.1-0.2	SE149963.012	LB097135	09 Mar 2016	10 Mar 2016	09 Mar 2017	15 Mar 2016	09 Mar 2017	17 Mar 2016

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB097090	09 Mar 2016	10 Mar 2016	06 Apr 2016	15 Mar 2016	06 Apr 2016	16 Mar 2016

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096947	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	16 Mar 2016	16 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

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
BH2_0.2-0.4	SE149963.001	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

HOLDING TIME SUMMARY

SE149963 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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH11M_1.0-1.1	SE149963.008	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	17 Mar 2016

Total Recoverable Metals 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
BH2_0.2-0.4	SE149963.001	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB097056	09 Mar 2016	10 Mar 2016	05 Sep 2016	15 Mar 2016	05 Sep 2016	16 Mar 2016

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
BH2_0.2-0.4	SE149963.001	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096968	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH2_0.2-0.4	SE149963.001	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH2_1.2-1.5	SE149963.002	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.2-0.4	SE149963.003	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH3_0.8-1.0	SE149963.004	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_0.2-0.3	SE149963.005	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH9M_2.0-2.1	SE149963.006	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_0.1-0.2	SE149963.007	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016
BH11M_1.0-1.1	SE149963.008	LB096949	09 Mar 2016	10 Mar 2016	23 Mar 2016	11 Mar 2016	20 Apr 2016	16 Mar 2016

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]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	105
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	93
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	95
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	105

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	90
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	102
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	98
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	108
d14-p-terphenyl (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	110
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	118
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	102
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH2_0.2-0.4	SE149963.001	%	70 - 130%	90
	BH2_1.2-1.5	SE149963.002	%	70 - 130%	94
	BH3_0.2-0.4	SE149963.003	%	70 - 130%	102
	BH3_0.8-1.0	SE149963.004	%	70 - 130%	100
	BH9M_0.2-0.3	SE149963.005	%	70 - 130%	98
	BH9M_2.0-2.1	SE149963.006	%	70 - 130%	94
	BH11M_0.1-0.2	SE149963.007	%	70 - 130%	108
	BH11M_1.0-1.1	SE149963.008	%	70 - 130%	94
d14-p-terphenyl (Surrogate)	BH2_0.2-0.4	SE149963.001	%	70 - 130%	110
	BH2_1.2-1.5	SE149963.002	%	70 - 130%	104
	BH3_0.2-0.4	SE149963.003	%	70 - 130%	118
	BH3_0.8-1.0	SE149963.004	%	70 - 130%	110
	BH9M_0.2-0.3	SE149963.005	%	70 - 130%	102
	BH9M_2.0-2.1	SE149963.006	%	70 - 130%	114
	BH11M_0.1-0.2	SE149963.007	%	70 - 130%	104
	BH11M_1.0-1.1	SE149963.008	%	70 - 130%	106
d5-nitrobenzene (Surrogate)	BH2_0.2-0.4	SE149963.001	%	70 - 130%	98
	BH2_1.2-1.5	SE149963.002	%	70 - 130%	88
	BH3_0.2-0.4	SE149963.003	%	70 - 130%	104
	BH3_0.8-1.0	SE149963.004	%	70 - 130%	106
	BH9M_0.2-0.3	SE149963.005	%	70 - 130%	94
	BH9M_2.0-2.1	SE149963.006	%	70 - 130%	104
	BH11M_0.1-0.2	SE149963.007	%	70 - 130%	98
	BH11M_1.0-1.1	SE149963.008	%	70 - 130%	88

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	105
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	93
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	95
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	105

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	87
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	85
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	75
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	77
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	89
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	94
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	83
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	82
d4-1,2-dichloroethane (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	101
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	94
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	91

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/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	BH3_0.8-1.0	SE149963.004	%	60 - 130%	89
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	108
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	101
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	96
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	94
d8-toluene (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	91
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	73
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	80
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	78
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	97
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	83
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	87
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	73
Dibromofluoromethane (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	86
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	80
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	74
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	72
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	87
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	85
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	77
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	77

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	87
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	85
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	75
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	76
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	89
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	100
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	83
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	86
d4-1,2-dichloroethane (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	101
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	98
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	91
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	93
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	108
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	105
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	96
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	98
d8-toluene (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	91
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	87
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	80
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	81
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	97
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	96
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	87
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	88
Dibromofluoromethane (Surrogate)	BH2_0.2-0.4	SE149963.001	%	60 - 130%	86
	BH2_1.2-1.5	SE149963.002	%	60 - 130%	81
	BH3_0.2-0.4	SE149963.003	%	60 - 130%	74
	BH3_0.8-1.0	SE149963.004	%	60 - 130%	73
	BH9M_0.2-0.3	SE149963.005	%	60 - 130%	87
	BH9M_2.0-2.1	SE149963.006	%	60 - 130%	87
	BH11M_0.1-0.2	SE149963.007	%	60 - 130%	77
	BH11M_1.0-1.1	SE149963.008	%	60 - 130%	78

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 in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097090.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096968.001		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)	%	-	95

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096968.001		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)	%	-	108
		d14-p-terphenyl (Surrogate)	%	-	114

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB096968.001	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
	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

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
LB096968.001		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)	%	-	90
		2-fluorobiphenyl (Surrogate)	%	-	108
		d14-p-terphenyl (Surrogate)	%	-	114

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB096968.001		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)	%	-	95

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

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

Sample Number	Parameter	Units	LOR	Result
LB097056.001	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

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB096968.001	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096949.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096949.001	Halogenated Aliphatics	1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	90
		d4-1,2-dichloroethane (Surrogate)	%	-	100
		d8-toluene (Surrogate)	%	-	76
		Bromofluorobenzene (Surrogate)	%	-	87
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

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.

Volatile Petroleum Hydrocarbons in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434/AN410**

Sample Number		Parameter	Units	LOR	Result
LB096949.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	91
		d4-1,2-dichloroethane (Surrogate)	%	-	104
		d8-toluene (Surrogate)	%	-	94

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 in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150011.002	LB097090.014	Mercury	mg/kg	0.01	0.03	0.05	147	6
SE150037.005	LB097090.024	Mercury	mg/kg	0.01	0.02	0.02	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.003	LB096947.011	% Moisture	%w/w	0.5	19	18	35	2
SE149963.008	LB096947.017	% Moisture	%w/w	0.5	9.5	9.0	41	6

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.007	LB096968.024		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.151	30	5

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.002	LB096968.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.002	LB096968.014		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.6	30	6
SE149963.008	LB096968.021		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	0.1	<0.1	135	10
			Pyrene	mg/kg	0.1	0.2	0.1	104	52
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	197	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	173	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	197	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	197	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	4
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.007	LB096968.022		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	0.151	30	5

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150011.001	LB097056.014	Arsenic, As	mg/kg	3	2	2	80	12
		Cadmium, Cd	mg/kg	0.3	0.3	0.4	108	26
		Chromium, Cr	mg/kg	0.3	24	25	32	1
		Copper, Cu	mg/kg	0.5	24	22	32	7
		Lead, Pb	mg/kg	1	20	25	34	25
		Nickel, Ni	mg/kg	0.5	19	17	33	13
		Zinc, Zn	mg/kg	0.5	100	140	32	25
SE150011.006	LB097056.020	Arsenic, As	mg/kg	3	4	2	64	42
		Cadmium, Cd	mg/kg	0.3	1.4	1.5	51	7
		Chromium, Cr	mg/kg	0.3	56	59	31	6
		Copper, Cu	mg/kg	0.5	270	280	30	5
		Lead, Pb	mg/kg	1	54	58	32	7
		Nickel, Ni	mg/kg	0.5	30	32	32	6

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 Metals in Soil/Waste Solids/Materials by ICPOES (continued)

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150011.006	LB097056.020	Zinc, Zn	mg/kg	0.5	690	730	30	6

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.002	LB096968.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE149963.008	LB096968.021		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.008	LB096949.012	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.008	LB096949.012	Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		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
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.9	3.4	50	12
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.2	50	10
			d8-toluene (Surrogate)	mg/kg	-	3.6	3.6	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.1	3.6	50	13
		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
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149963.008	LB096949.012		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	-	3.9	4.2	30	8
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	4.4	30	10
			d8-toluene (Surrogate)	mg/kg	-	4.4	3.9	30	12
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.3	3.7	30	15
		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

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 %
LB097090.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096968.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	99
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	97
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	92
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	95
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	105
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	90
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	91

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096968.002		Dichlorvos	mg/kg	0.5	1.6	2	60 - 140	82
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	100
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	98
		Ethion	mg/kg	0.2	1.7	2	60 - 140	87
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	110

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096968.002		Naphthalene	mg/kg	0.1	4.5	4	60 - 140	113
		Acenaphthylene	mg/kg	0.1	4.5	4	60 - 140	112
		Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	113
		Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	113
		Anthracene	mg/kg	0.1	4.9	4	60 - 140	124
		Fluoranthene	mg/kg	0.1	4.6	4	60 - 140	115
		Pyrene	mg/kg	0.1	4.7	4	60 - 140	116
		Benzo(a)pyrene	mg/kg	0.1	4.8	4	60 - 140	120
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	110

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096968.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	113

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097056.002	Arsenic, As	mg/kg	3	50	50	80 - 120	101
	Cadmium, Cd	mg/kg	0.3	52	50	80 - 120	103
	Chromium, Cr	mg/kg	0.3	51	50	80 - 120	102
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	102
	Lead, Pb	mg/kg	1	52	50	80 - 120	104
	Nickel, Ni	mg/kg	0.5	51	50	80 - 120	102
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	97

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096968.002		TRH C10-C14	mg/kg	20	45	40	60 - 140	113
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	108
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	93
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	45	40	60 - 140	113
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	105
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR

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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096949.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	2.3	2.56	60 - 140	91
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	2.9	2.56	60 - 140	114
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	1.9	2.56	60 - 140	73
	Halogenated	Chlorobenzene	mg/kg	0.1	2.8	2.56	60 - 140	109
	Monocyclic	Benzene	mg/kg	0.1	3.1	2.9	60 - 140	106
	Aromatic	Toluene	mg/kg	0.1	2.6	2.9	60 - 140	89
		Ethylbenzene	mg/kg	0.1	2.6	2.9	60 - 140	90
		m/p-xylene	mg/kg	0.2	5.1	5.8	60 - 140	88
		o-xylene	mg/kg	0.1	2.7	2.9	60 - 140	94
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	94
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	5	60 - 140	116
		d8-toluene (Surrogate)	mg/kg	-	4.3	5	60 - 140	86
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	5	60 - 140	97
	Trihalomethan	Chloroform	mg/kg	0.1	2.9	2.56	60 - 140	115

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096949.002		TRH C6-C10	mg/kg	25	26	24.65	60 - 140	104
		TRH C6-C9	mg/kg	20	22	23.2	60 - 140	95
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	95
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.5	5	60 - 140	109
		d8-toluene (Surrogate)	mg/kg	-	5.1	5	60 - 140	101
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	5	60 - 140	99
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	126

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 in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149963.001	LB097090.004	Mercury	mg/kg	0.01	0.29	0.15	0.2	71

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149945.002	LB096968.022		Naphthalene	mg/kg	0.1	4.6	<0.1	4	114
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.7	<0.1	4	117
			Acenaphthene	mg/kg	0.1	4.4	<0.1	4	111
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.3	<0.1	4	106
			Anthracene	mg/kg	0.1	4.8	<0.1	4	120
			Fluoranthene	mg/kg	0.1	4.6	0.1	4	112
			Pyrene	mg/kg	0.1	4.6	0.1	4	112
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.8	<0.1	4	118
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	4.8	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.9	<0.3	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.9	<0.2	-	-
			Total PAH (18)	mg/kg	0.8	37	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	96
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	92
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	106

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149956.004	LB097056.004	Arsenic, As	mg/kg	3	50	<1	50	100
		Cadmium, Cd	mg/kg	0.3	52	<0.1	50	103

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149945.001	LB096968.022		TRH C10-C14	mg/kg	20	48	<20	40	113
			TRH C15-C28	mg/kg	45	110	51	40	153 ⑨
			TRH C29-C36	mg/kg	45	100	<45	40	150 ⑨
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	260	<110	-	-
			TRH C10-C40 Total	mg/kg	210	260	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	48	<25	40	113
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	48	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	160	91	40	183 ⑨
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149963.001	LB096949.004		TRH C6-C10	mg/kg	25	25	<25	24.65	100
			TRH C6-C9	mg/kg	20	21	<20	23.2	90
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	4.3	-	80
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.0	5.0	-	81
			d8-toluene (Surrogate)	mg/kg	-	3.6	4.6	-	72
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.4	-	83
		VPH F	Benzene (F0)	mg/kg	0.1	2.3	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	140

MATRIX SPIKE DUPLICATES

SE149963 R0

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 tthe performance of this service.
-	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.

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STATEMENT OF QA/QC PERFORMANCE

SE150039 R0

CLIENT DETAILS

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Order Number	**E22913**
Samples	12

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SGS Reference	**SE150039 R0**
Date Received	14 Mar 2016
Date Reported	21 Mar 2016

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:

Matrix Spike	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	3 items

SAMPLE SUMMARY

Sample counts by matrix	11 Soils, 1 Water	Type of documentation received	COC
Date documentation received	14/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	10.9°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE150039 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
BH6 0.2-0.4_ZLP	SE150039.007	LB097401	11 Mar 2016	14 Mar 2016	11 Mar 2017	18 Mar 2016	11 Mar 2017	21 Mar 2016
BH7 0.2-0.4_ZLP	SE150039.008	LB097401	10 Mar 2016	14 Mar 2016	10 Mar 2017	18 Mar 2016	10 Mar 2017	21 Mar 2016
BH12 0.2-0.4_ZLP	SE150039.009	LB097401	11 Mar 2016	14 Mar 2016	11 Mar 2017	18 Mar 2016	11 Mar 2017	21 Mar 2016

Mercury (dissolved) in Water

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE150039.012	LB097282	11 Mar 2016	14 Mar 2016	08 Apr 2016	17 Mar 2016	08 Apr 2016	17 Mar 2016

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097369	11 Mar 2016	14 Mar 2016	08 Apr 2016	18 Mar 2016	08 Apr 2016	21 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097369	11 Mar 2016	14 Mar 2016	08 Apr 2016	18 Mar 2016	08 Apr 2016	21 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097369	10 Mar 2016	14 Mar 2016	07 Apr 2016	18 Mar 2016	07 Apr 2016	21 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097369	10 Mar 2016	14 Mar 2016	07 Apr 2016	18 Mar 2016	07 Apr 2016	21 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097369	11 Mar 2016	14 Mar 2016	08 Apr 2016	18 Mar 2016	08 Apr 2016	21 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097369	11 Mar 2016	14 Mar 2016	08 Apr 2016	18 Mar 2016	08 Apr 2016	21 Mar 2016
QD1	SE150039.010	LB097369	10 Mar 2016	14 Mar 2016	07 Apr 2016	18 Mar 2016	07 Apr 2016	21 Mar 2016

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097116	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097116	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	21 Mar 2016†
QD1	SE150039.010	LB097225	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	21 Mar 2016	19 Mar 2016
QTB1	SE150039.011	LB097116	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	20 Mar 2016	18 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
QD1	SE150039.010	LB097249	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	21 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
QD1	SE150039.010	LB097249	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	18 Mar 2016

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
BH6 0.2-0.4	SE150039.001	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
QD1	SE150039.010	LB097249	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	18 Mar 2016

HOLDING TIME SUMMARY

SE150039 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.

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
QD1	SE150039.010	LB097249	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	21 Mar 2016

Total Recoverable Metals 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
BH6 0.2-0.4	SE150039.001	LB097266	11 Mar 2016	14 Mar 2016	07 Sep 2016	17 Mar 2016	07 Sep 2016	21 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097266	11 Mar 2016	14 Mar 2016	07 Sep 2016	17 Mar 2016	07 Sep 2016	21 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097266	10 Mar 2016	14 Mar 2016	06 Sep 2016	17 Mar 2016	06 Sep 2016	21 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097266	10 Mar 2016	14 Mar 2016	06 Sep 2016	17 Mar 2016	06 Sep 2016	21 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097267	11 Mar 2016	14 Mar 2016	07 Sep 2016	17 Mar 2016	07 Sep 2016	21 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097267	11 Mar 2016	14 Mar 2016	07 Sep 2016	17 Mar 2016	07 Sep 2016	21 Mar 2016
QD1	SE150039.010	LB097267	10 Mar 2016	14 Mar 2016	06 Sep 2016	17 Mar 2016	06 Sep 2016	21 Mar 2016

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	SE150039.012	LB097287	11 Mar 2016	14 Mar 2016	07 Sep 2016	17 Mar 2016	07 Sep 2016	17 Mar 2016

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
BH6 0.2-0.4	SE150039.001	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097123	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097123	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	21 Mar 2016
QD1	SE150039.010	LB097249	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	21 Mar 2016

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	SE150039.012	LB097122	11 Mar 2016	14 Mar 2016	18 Mar 2016	14 Mar 2016	23 Apr 2016	18 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097118	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097118	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 0.2-0.4	SE150039.005	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
QD1	SE150039.010	LB097228	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	18 Mar 2016
QTB1	SE150039.011	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE150039.012	LB097140	11 Mar 2016	14 Mar 2016	18 Mar 2016	15 Mar 2016	24 Apr 2016	17 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH6 0.2-0.4	SE150039.001	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 1.3-1.5	SE150039.002	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 0.2-0.4	SE150039.003	LB097118	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH7 2.3-2.5	SE150039.004	LB097118	10 Mar 2016	14 Mar 2016	24 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016

HOLDING TIME SUMMARY

SE150039 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.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH12 0.2-0.4	SE150039.005	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH12 1.3-1.5	SE150039.006	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
BH6 0.2-0.4_ZLP	SE150039.007	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016
QD1	SE150039.010	LB097228	10 Mar 2016	14 Mar 2016	24 Mar 2016	16 Mar 2016	25 Apr 2016	18 Mar 2016
QTB1	SE150039.011	LB097118	11 Mar 2016	14 Mar 2016	25 Mar 2016	15 Mar 2016	24 Apr 2016	18 Mar 2016

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE150039.012	LB097140	11 Mar 2016	14 Mar 2016	18 Mar 2016	15 Mar 2016	24 Apr 2016	17 Mar 2016

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]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	71
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	77
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	75

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	84
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	82
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	86
d14-p-terphenyl (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	104
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	106
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH6 0.2-0.4	SE150039.001	%	70 - 130%	84
	BH6 1.3-1.5	SE150039.002	%	70 - 130%	84
	BH7 0.2-0.4	SE150039.003	%	70 - 130%	82
	BH7 2.3-2.5	SE150039.004	%	70 - 130%	82
	BH12 0.2-0.4	SE150039.005	%	70 - 130%	86
	BH12 1.3-1.5	SE150039.006	%	70 - 130%	86
d14-p-terphenyl (Surrogate)	BH6 0.2-0.4	SE150039.001	%	70 - 130%	104
	BH6 1.3-1.5	SE150039.002	%	70 - 130%	106
	BH7 0.2-0.4	SE150039.003	%	70 - 130%	106
	BH7 2.3-2.5	SE150039.004	%	70 - 130%	92
	BH12 0.2-0.4	SE150039.005	%	70 - 130%	100
	BH12 1.3-1.5	SE150039.006	%	70 - 130%	108
d5-nitrobenzene (Surrogate)	BH6 0.2-0.4	SE150039.001	%	70 - 130%	90
	BH6 1.3-1.5	SE150039.002	%	70 - 130%	86
	BH7 0.2-0.4	SE150039.003	%	70 - 130%	86
	BH7 2.3-2.5	SE150039.004	%	70 - 130%	76
	BH12 0.2-0.4	SE150039.005	%	70 - 130%	90
	BH12 1.3-1.5	SE150039.006	%	70 - 130%	80

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	71
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	77
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	93
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	101
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	82
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	97
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	72
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	82
	QD1	SE150039.010	%	60 - 130%	73
	QTB1	SE150039.011	%	60 - 130%	98
d4-1,2-dichloroethane (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	107
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	99
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	114
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	91
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	84
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	79
	QD1	SE150039.010	%	60 - 130%	86
	QTB1	SE150039.011	%	60 - 130%	113
d8-toluene (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	101
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	107
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	98
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	91
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	82

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/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH12 1.3-1.5	SE150039.006	%	60 - 130%	87
	QD1	SE150039.010	%	60 - 130%	80
	QTB1	SE150039.011	%	60 - 130%	96
Dibromofluoromethane (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	99
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	71
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	103
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	96
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	77
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	74
	QD1	SE150039.010	%	60 - 130%	74
	QTB1	SE150039.011	%	60 - 130%	101

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE150039.012	%	40 - 130%	83
d4-1,2-dichloroethane (Surrogate)	QR1	SE150039.012	%	40 - 130%	118
d8-toluene (Surrogate)	QR1	SE150039.012	%	40 - 130%	113
Dibromofluoromethane (Surrogate)	QR1	SE150039.012	%	40 - 130%	122

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	93
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	88
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	82
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	79
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	72
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	72
	QD1	SE150039.010	%	60 - 130%	73
d4-1,2-dichloroethane (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	107
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	102
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	114
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	100
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	84
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	76
	QD1	SE150039.010	%	60 - 130%	72
d8-toluene (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	101
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	92
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	98
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	97
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	82
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	73
	QD1	SE150039.010	%	60 - 130%	73
Dibromofluoromethane (Surrogate)	BH6 0.2-0.4	SE150039.001	%	60 - 130%	99
	BH6 1.3-1.5	SE150039.002	%	60 - 130%	72
	BH7 0.2-0.4	SE150039.003	%	60 - 130%	103
	BH7 2.3-2.5	SE150039.004	%	60 - 130%	105
	BH12 0.2-0.4	SE150039.005	%	60 - 130%	77
	BH12 1.3-1.5	SE150039.006	%	60 - 130%	70
	QD1	SE150039.010	%	60 - 130%	74

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE150039.012	%	40 - 130%	83
d4-1,2-dichloroethane (Surrogate)	QR1	SE150039.012	%	60 - 130%	118
d8-toluene (Surrogate)	QR1	SE150039.012	%	40 - 130%	113
Dibromofluoromethane (Surrogate)	QR1	SE150039.012	%	40 - 130%	122

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/AN312

Sample Number	Parameter	Units	LOR	Result
LB097282.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097369.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097123.001		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)	%	-	106

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097123.001		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)	%	-	88
		d14-p-terphenyl (Surrogate)	%	-	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097123.001	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
LB097123.001		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)	%	-	84
		2-fluorobiphenyl (Surrogate)	%	-	88
		d14-p-terphenyl (Surrogate)	%	-	108

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097123.001		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)	%	-	94

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

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

Sample Number	Parameter	Units	LOR	Result
LB097266.001	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
LB097267.001	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
LB097287.001	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
LB097123.001	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
LB097249.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Sample Number	Parameter	Units	LOR	Result
LB097249.001	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
LB097122.001	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/AN434

Sample Number		Parameter	Units	LOR	Result
LB097118.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	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

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/AN434**

Sample Number		Parameter	Units	LOR	Result
LB097118.001	Monocyclic Aromatic Hydrocarbons	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	84
		d4-1,2-dichloroethane (Surrogate)	%	-	89
		d8-toluene (Surrogate)	%	-	101
		Bromofluorobenzene (Surrogate)	%	-	102
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1
LB097228.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB097228.001	Halogenated Aliphatics	1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	94
		d4-1,2-dichloroethane (Surrogate)	%	-	105
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	96
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB097140.001	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)	%	-	123
		d4-1,2-dichloroethane (Surrogate)	%	-	110
		d8-toluene (Surrogate)	%	-	121
		Bromofluorobenzene (Surrogate)	%	-	77

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

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.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB097118.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	91
		d4-1,2-dichloroethane (Surrogate)	%	-	98
		d8-toluene (Surrogate)	%	-	88
LB097228.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	97
		d4-1,2-dichloroethane (Surrogate)	%	-	110
		d8-toluene (Surrogate)	%	-	112

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB097140.001		TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	123
		d4-1,2-dichloroethane (Surrogate)	%	-	110
		d8-toluene (Surrogate)	%	-	121
		Bromofluorobenzene (Surrogate)	%	-	77

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/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150061.027	LB097282.014	Mercury	µg/L	0.0001	-0.0414	-0.0414	136	0

Mercury in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150032.043	LB097369.014	Mercury	mg/kg	0.01	0.027872006	7 0.0250253231	200	0
SE150045.001	LB097369.024	Mercury	mg/kg	0.01	0.010492177	5 0.0098838485	200	0

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150046.001	LB097116.011	% Moisture	%w/w	0.5	2.6	2.8	67	4
SE150048.002	LB097116.014	% Moisture	%w/w	0.5	7.6	7.8	43	2
SE150109.003	LB097225.006	% Moisture	%w/w	0.5	17.5	13.7	36	25

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150057.038	LB097123.019		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.05	<0.05	200	0
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.16	30	4

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150039.005	LB097123.020		Dichlorvos	mg/kg	0.5	<0.5	0.03	200	0
			Dimethoate	mg/kg	0.5	<0.5	0	200	0
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	0	200	0
			Fenitrothion	mg/kg	0.2	<0.2	0	200	0
			Malathion	mg/kg	0.2	<0.2	0.05	200	0
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	0	200	0
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	0	200	0
			Bromophos Ethyl	mg/kg	0.2	<0.2	0.07	200	0
			Methidathion	mg/kg	0.5	<0.5	0	200	0
			Ethion	mg/kg	0.2	<0.2	0	200	0
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	0.02	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.44	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150039.005	LB097123.020	Naphthalene	mg/kg	0.1	0.6	0.68	46	19
		2-methylnaphthalene	mg/kg	0.1	0.2	0.29	68	19
		1-methylnaphthalene	mg/kg	0.1	0.2	0.28	69	20
		Acenaphthylene	mg/kg	0.1	1.4	1.56	37	9
		Acenaphthene	mg/kg	0.1	0.1	0.16	107	46
		Fluorene	mg/kg	0.1	0.7	0.84	43	15
		Phenanthrene	mg/kg	0.1	10	11.65	31	11
		Anthracene	mg/kg	0.1	2.5	2.75	34	8
		Fluoranthene	mg/kg	0.1	15	15.05	31	1
		Pyrene	mg/kg	0.1	23	19.51	30	17
		Benzo(a)anthracene	mg/kg	0.1	7.1	7.39	31	4
		Chrysene	mg/kg	0.1	6.4	6.85	32	6
		Benzo(b&j)fluoranthene	mg/kg	0.1	6.6	6.92	31	5
		Benzo(k)fluoranthene	mg/kg	0.1	4.6	4.92	32	7
		Benzo(a)pyrene	mg/kg	0.1	7.5	8.05	31	7
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	4.0	4.23	32	6
		Dibenzo(ah)anthracene	mg/kg	0.1	1.0	1.13	39	8
		Benzo(ghi)perylene	mg/kg	0.1	3.6	3.79	33	4
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	11	11.6414	12	7
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	11	11.6414	13	7
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	11	11.6414	12	7
		Total PAH (18)	mg/kg	0.8	95	96.14	31	1
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.42	30	7
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.44	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.51	30	2

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

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150032.039	LB097266.014	Arsenic, As	mg/kg	3	3.7542810157	3.8825031788	56	3
		Cadmium, Cd	mg/kg	0.3	0.1764275368	0.1715927430	200	0
		Chromium, Cr	mg/kg	0.3	9.8482193073	10.358891066	35	5
		Copper, Cu	mg/kg	0.5	14.879742052	15.1121672674	33	2
		Lead, Pb	mg/kg	1	11.878829800	13.829648685	32	5
		Nickel, Ni	mg/kg	0.5	7.3034497286	7.6792500491	37	5
		Zinc, Zn	mg/kg	0.5	35.817671879	39.304794520	33	5
SE150039.004	LB097266.024	Arsenic, As	mg/kg	3	7	7	45	5
		Cadmium, Cd	mg/kg	0.3	0.4	0.5	99	21
		Chromium, Cr	mg/kg	0.3	18	18	33	0
		Copper, Cu	mg/kg	0.5	21	22	32	2
		Lead, Pb	mg/kg	1	27	28	34	6
		Nickel, Ni	mg/kg	0.5	1.9	2.2	54	16
		Zinc, Zn	mg/kg	0.5	18	19	41	5
SE150061.017	LB097267.014	Arsenic, As	mg/kg	3	8.4888150118	8.1243928161	42	4
		Cadmium, Cd	mg/kg	0.3	0.6445831595	0.5383255933	81	18
		Chromium, Cr	mg/kg	0.3	21.126806077	18.223376313	33	15
		Copper, Cu	mg/kg	0.5	14.356117890	14.642864605	33	2
		Lead, Pb	mg/kg	1	20.673968328	19.221799372	35	7
		Nickel, Ni	mg/kg	0.5	3.9383978236	3.9517140637	43	0
		Zinc, Zn	mg/kg	0.5	21.729206647	20.840249186	39	4
SE150109.002	LB097267.024	Arsenic, As	mg/kg	3	9	10	41	5
		Cadmium, Cd	mg/kg	0.3	0.9	0.9	64	1
		Chromium, Cr	mg/kg	0.3	18	18	33	2
		Copper, Cu	mg/kg	0.5	220	220	30	0
		Lead, Pb	mg/kg	1	140	110	31	24
		Nickel, Ni	mg/kg	0.5	11	11	34	4
		Zinc, Zn	mg/kg	0.5	480	580	30	18

Trace Metals (Dissolved) in Water by ICPMS

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

Original	Duplicate	Parameter	Units	LOR

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.

Trace Metals (Dissolved) in Water by ICPMS (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150075.003	LB097287.014		Zinc, Zn	µg/L	5	28	29	32	1
SE150106.001	LB097287.016		Arsenic, As	µg/L	1	3	3	53	2
			Cadmium, Cd	µg/L	0.1	<0.1	<0.1	200	0
			Chromium, Cr	µg/L	1	<1	<1	200	0
			Copper, Cu	µg/L	1	11	12	24	3
			Lead, Pb	µg/L	1	<1	<1	200	0
			Nickel, Ni	µg/L	1	1	1	88	11
			Zinc, Zn	µg/L	5	57	58	24	2

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150039.005	LB097123.020		TRH C10-C14	mg/kg	20	<20	0	200	0
			TRH C15-C28	mg/kg	45	220	234	50	8
			TRH C29-C36	mg/kg	45	82	103	79	23
			TRH C37-C40	mg/kg	100	<100	0	200	0
			TRH C10-C36 Total	mg/kg	110	300	337	65	12
			TRH C10-C40 Total	mg/kg	210	300	337	96	12
		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	280	315	60	11
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE150142.001	LB097249.017		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150044.001	LB097118.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150044.001	LB097118.014	Halogenated	1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		Aliphatics	cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		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
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	3.8	50	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.2	4.3	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.7	50	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	4.2	50	0
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.3	<0.3	200	0
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE150114.009	LB097228.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	0	0	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	0	0	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

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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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150114.009	LB097228.014	Halogenated	Iodomethane	mg/kg	5	0	0	200	0
		Aliphatics	1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	0	0	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	0	0	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5.1	50	9
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.7	6.3	50	11
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.8	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.0	5.6	50	13
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	0.02	0.02	200	0
SE150114.010	LB097228.016	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	0	0	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	0	0	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	0	0	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150114.010	LB097228.016	Halogenated	1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		Aliphatics	1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	0	0	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	0	0	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.3	4.2	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.3	5.2	50	2
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.1	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	4.6	50	0
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	0.02	0.02	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150044.001	LB097118.014		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	-	3.7	3.6	30	2
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.2	30	2
			d8-toluene (Surrogate)	mg/kg	-	3.7	3.8	30	3
			Bromofluorobenzene (Surrogate)	mg/kg	-	3.8	3.7	30	2
		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

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 %
LB097369.002	Mercury	mg/kg	0.01	0.18	0.2	70 - 130	92

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097123.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	85
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	93
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	97
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	91
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	88
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	81
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	97

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097123.002		Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	101
		Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	100
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.1	2	60 - 140	105
		Ethion	mg/kg	0.2	2.0	2	60 - 140	102
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097123.002		Naphthalene	mg/kg	0.1	4.9	4	60 - 140	121
		Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	120
		Acenaphthene	mg/kg	0.1	4.7	4	60 - 140	118
		Phenanthrene	mg/kg	0.1	4.6	4	60 - 140	116
		Anthracene	mg/kg	0.1	5.2	4	60 - 140	129
		Fluoranthene	mg/kg	0.1	4.6	4	60 - 140	115
		Pyrene	mg/kg	0.1	4.7	4	60 - 140	117
		Benzo(a)pyrene	mg/kg	0.1	5.1	4	60 - 140	129
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	100

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097123.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	109

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097266.002	Arsenic, As	mg/kg	3	50	50	80 - 120	99
	Cadmium, Cd	mg/kg	0.3	50	50	80 - 120	99
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	47	50	80 - 120	95
	Lead, Pb	mg/kg	1	49	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	50	50	80 - 120	101
	Zinc, Zn	mg/kg	0.5	49	50	80 - 120	98
LB097267.002	Arsenic, As	mg/kg	3	49	50	80 - 120	97
	Cadmium, Cd	mg/kg	0.3	50	50	80 - 120	100
	Chromium, Cr	mg/kg	0.3	49	50	80 - 120	98
	Copper, Cu	mg/kg	0.5	47	50	80 - 120	95
	Lead, Pb	mg/kg	1	49	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	98
	Zinc, Zn	mg/kg	0.5	50	50	80 - 120	100

Trace Metals (Dissolved) in Water by ICPMS

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

Sample Number	Parameter	Units	LOR

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.

Trace Metals (Dissolved) in Water by ICPMS (continued)

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097287.002	Arsenic, As	µg/L	1	18	20	80 - 120	92
	Cadmium, Cd	µg/L	0.1	19	20	80 - 120	95
	Chromium, Cr	µg/L	1	19	20	80 - 120	97
	Copper, Cu	µg/L	1	20	20	80 - 120	100
	Lead, Pb	µg/L	1	19	20	80 - 120	97
	Nickel, Ni	µg/L	1	20	20	80 - 120	98
	Zinc, Zn	µg/L	5	19	20	80 - 120	96

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097123.002		TRH C10-C14	mg/kg	20	41	40	60 - 140	103
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	105
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	88
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	42	40	60 - 140	105
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85
LB097249.002		TRH C10-C14	mg/kg	20	41	40	60 - 140	103
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	105
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	88
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	42	40	60 - 140	105
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	85

TRH (Total Recoverable Hydrocarbons) in Water

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097122.002		TRH C10-C14	µg/L	50	1300	1200	60 - 140	109
		TRH C15-C28	µg/L	200	1500	1200	60 - 140	126
		TRH C29-C36	µg/L	200	1600	1200	60 - 140	137
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1400	1200	60 - 140	117
		TRH >C16-C34 (F3)	µg/L	500	1700	1200	60 - 140	138
		TRH >C34-C40 (F4)	µg/L	500	830	600	60 - 140	138

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097118.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	2.1	2.56	60 - 140	83
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	2.9	2.56	60 - 140	113
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.8	2.56	60 - 140	110
	Halogenated	Chlorobenzene	mg/kg	0.1	3.3	2.56	60 - 140	127
	Monocyclic	Benzene	mg/kg	0.1	2.4	2.9	60 - 140	84
	Aromatic	Toluene	mg/kg	0.1	2.9	2.9	60 - 140	101
		Ethylbenzene	mg/kg	0.1	3.2	2.9	60 - 140	112
		m/p-xylene	mg/kg	0.2	6.5	5.8	60 - 140	112
		o-xylene	mg/kg	0.1	3.1	2.9	60 - 140	108
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.7	5	60 - 140	74
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
		d8-toluene (Surrogate)	mg/kg	-	4.1	5	60 - 140	81
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	5	60 - 140	97
	Trihalomethan	Chloroform	mg/kg	0.1	2.1	2.56	60 - 140	82
LB097228.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	2.5	2.56	60 - 140	96
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	3.0	2.56	60 - 140	119
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	1.8	2.56	60 - 140	70
	Halogenated	Chlorobenzene	mg/kg	0.1	2.8	2.56	60 - 140	109
	Monocyclic	Benzene	mg/kg	0.1	3.2	2.9	60 - 140	112
	Aromatic	Toluene	mg/kg	0.1	2.5	2.9	60 - 140	86
		Ethylbenzene	mg/kg	0.1	2.6	2.9	60 - 140	89
		m/p-xylene	mg/kg	0.2	5.2	5.8	60 - 140	89
		o-xylene	mg/kg	0.1	2.8	2.9	60 - 140	95
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5	60 - 140	94
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	5	60 - 140	121
		d8-toluene (Surrogate)	mg/kg	-	4.0	5	60 - 140	79
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.5	5	60 - 140	89
	Trihalomethan	Chloroform	mg/kg	0.1	3.1	2.56	60 - 140	120

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.

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097140.002	Monocyclic	Benzene	µg/L	0.5	51	45.45	60 - 140	112
	Aromatic	Toluene	µg/L	0.5	51	45.45	60 - 140	112
		Ethylbenzene	µg/L	0.5	51	45.45	60 - 140	112
		m/p-xylene	µg/L	1	100	90.9	60 - 140	113
		o-xylene	µg/L	0.5	51	45.45	60 - 140	112
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		Bromofluorobenzene (Surrogate)	µg/L	-	5.4	5	60 - 140	107

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097118.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	91
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	81
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	93
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.1	5	60 - 140	101
		d8-toluene (Surrogate)	mg/kg	-	4.8	5	60 - 140	96
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	5	60 - 140	109
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	95
LB097228.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	99
		TRH C6-C9	mg/kg	20	20	23.2	60 - 140	88
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	5	60 - 140	104
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.1	5	60 - 140	122
		d8-toluene (Surrogate)	mg/kg	-	6.4	5	60 - 140	127
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.0	5	60 - 140	121
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140	101

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097140.002		TRH C6-C10	µg/L	50	940	946.63	60 - 140	100
		TRH C6-C9	µg/L	40	770	818.71	60 - 140	94
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.8	5	60 - 140	97
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140	96
		Bromofluorobenzene (Surrogate)	µg/L	-	5.4	5	60 - 140	107
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	640	639.67	60 - 140	99

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/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150019.056	LB097282.004	Mercury	mg/L	0.0001	0.0083	-0.051	0.008	105

Mercury in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150032.034	LB097369.004	Mercury	mg/kg	0.01	0.17	0.01296432023	0.2	79

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150032.030	LB097266.004	Arsenic, As	mg/kg	3	45	4.65393441650	50	81
		Cadmium, Cd	mg/kg	0.3	43	0.1061703125	50	86
		Chromium, Cr	mg/kg	0.3	51	6.70895655439	50	88
		Copper, Cu	mg/kg	0.5	51	10.4784910657	50	80
		Lead, Pb	mg/kg	1	54	13.7265388796	50	80
		Nickel, Ni	mg/kg	0.5	49	4.31906783681	50	89
		Zinc, Zn	mg/kg	0.5	59	16.89501778937	50	85
SE150039.005	LB097267.004	Arsenic, As	mg/kg	3	50	7	50	87
		Cadmium, Cd	mg/kg	0.3	43	0.9	50	85
		Chromium, Cr	mg/kg	0.3	56	15	50	81
		Copper, Cu	mg/kg	0.5	81	46	50	70 ④
		Lead, Pb	mg/kg	1	320	360	50	-67 ④
		Nickel, Ni	mg/kg	0.5	47	5.9	50	82
		Zinc, Zn	mg/kg	0.5	380	440	50	-129 ④

Trace Metals (Dissolved) in Water by ICPMS

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150022.001	LB097287.004	Arsenic, As	µg/L	1	21	<1	20	105
		Cadmium, Cd	µg/L	0.1	18	<0.1	20	91
		Chromium, Cr	µg/L	1	18	<1	20	91
		Copper, Cu	µg/L	1	17	<1	20	84
		Lead, Pb	µg/L	1	19	<1	20	96
		Nickel, Ni	µg/L	1	18	<1	20	87
		Zinc, Zn	µg/L	5	77	61	20	80

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE150118.001	LB097249.018		TRH C10-C14	mg/kg	20	0	40	88
			TRH C15-C28	mg/kg	45	0	40	91
			TRH C29-C36	mg/kg	45	0	40	98
			TRH C37-C40	mg/kg	100	0	-	-
			TRH C10-C36 Total	mg/kg	110	0	-	-
			TRH C10-C40 Total	mg/kg	210	0	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	0	40	92
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	0	-	-
			TRH >C16-C34 (F3)	mg/kg	90	0	40	98
			TRH >C34-C40 (F4)	mg/kg	120	0	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150039.010	LB097228.004	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	-	-
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	-	-
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	-	-
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	-	-
			Bromomethane	mg/kg	1	<1	<1	-	-
			Chloroethane	mg/kg	1	<1	<1	-	-

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/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150039.010	LB097228.004	Halogenated Aliphatics	Trichlorofluoromethane	mg/kg	1	<1	<1	-	-
			Iodomethane	mg/kg	5	<5	<5	-	-
			1,1-dichloroethene	mg/kg	0.1	2.0	<0.1	2.56	79
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	-	-
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	-
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	-
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichloroethane	mg/kg	0.1	2.5	<0.1	2.56	96
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	-	-
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	-	-
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	1.6	<0.1	2.56	61
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	-	-
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-	-
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-	-
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	-	-
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	2.5	<0.1	2.56	96
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	-
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	-
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
		Monocyclic Aromatic	Benzene	mg/kg	0.1	2.6	<0.1	2.9	90
			Toluene	mg/kg	0.1	2.2	<0.1	2.9	75
			Ethylbenzene	mg/kg	0.1	2.3	<0.1	2.9	78
			m/p-xylene	mg/kg	0.2	4.5	<0.2	5.8	77
			o-xylene	mg/kg	0.1	2.4	<0.1	2.9	82
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	-	-
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	-	-
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	-	-
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	-	-
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	-	-
			2-nitropropane	mg/kg	10	<10	<10	-	-
		Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	<10	-	-
			MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-	-
			Vinyl acetate	mg/kg	10	<10	<10	-	-
			MEK (2-butanone)	mg/kg	10	<10	<10	-	-
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	-	-
			2-hexanone (MBK)	mg/kg	5	<5	<5	-	-
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	3.7	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.3	-	93
			d8-toluene (Surrogate)	mg/kg	-	4.9	4.0	-	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150039.010	LB097228.004	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	3.7	-	94
		Totals	Total Xylenes*	mg/kg	0.3	6.9	<0.3	-	-
			Total BTEX	mg/kg	0.6	14	<0.6	-	-
		Trihalometha	Chloroform	mg/kg	0.1	2.5	<0.1	2.56	98
		nes	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	-	-
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	-	-
			Bromoform	mg/kg	0.1	<0.1	<0.1	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150039.001	LB097118.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	91
			TRH C6-C9	mg/kg	20	<20	<20	23.2	81
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	5.0	-	80
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	5.3	-	88
			d8-toluene (Surrogate)	mg/kg	-	4.4	5.1	-	87
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.4	4.6	-	88
		VPH F	Benzene (F0)	mg/kg	0.1	2.4	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	106
SE150039.010	LB097228.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	90
			TRH C6-C9	mg/kg	20	<20	<20	23.2	78
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.0	3.7	-	79
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	3.6	-	93
			d8-toluene (Surrogate)	mg/kg	-	4.9	3.6	-	98
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	3.7	-	94
		VPH F	Benzene (F0)	mg/kg	0.1	2.1	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	113

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 tthe performance of this service.
-	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.

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STATEMENT OF QA/QC PERFORMANCE

SE150233 R0

CLIENT DETAILS

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Project	**E22913 Regent St & Trafalgar St**
Order Number	**E22913**
Samples	29

LABORATORY DETAILS

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SGS Reference	**SE150233 R0**
Date Received	18 Mar 2016
Date Reported	30 Mar 2016

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	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	1 item
Matrix Spike	Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES	2 items

SAMPLE SUMMARY

Sample counts by matrix	29 Soil	Type of documentation received	COC
Date documentation received	18/3/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	6.1°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE150233 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
BH16 0.4-0.5_ZLB	SE150233.015	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH17 0.5-0.6_ZLB	SE150233.016	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH18 0.4-0.5_ZLB	SE150233.017	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH19 0.4-0.5_ZLB	SE150233.018	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH20 0.4-0.5_ZLB	SE150233.019	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH21 0.4-0.5_ZLB	SE150233.020	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH22 0.4-0.5_ZLB	SE150233.021	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH23 0.4-0.5_ZLB	SE150233.022	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH24 0.4-0.5_ZLB	SE150233.023	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH25 0.3-0.4_ZLB	SE150233.024	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH26 0.4-0.5_ZLB	SE150233.025	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016
BH27 0.2-0.3_ZLB	SE150233.026	LB097722	17 Mar 2016	18 Mar 2016	17 Mar 2017	23 Mar 2016	17 Mar 2017	29 Mar 2016

Mercury in Soil

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097696	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097697	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097697	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097697	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
QD2	SE150233.027	LB097697	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016
QD3	SE150233.028	LB097697	17 Mar 2016	18 Mar 2016	14 Apr 2016	23 Mar 2016	14 Apr 2016	29 Mar 2016

Moisture Content

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

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
QD2	SE150233.027	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
QD3	SE150233.028	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016
QTB1	SE150233.029	LB097486	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	26 Mar 2016	24 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016

HOLDING TIME SUMMARY

SE150233 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.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH22 1.1-1.2	SE150233.008	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
QD2	SE150233.027	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD3	SE150233.028	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
QD2	SE150233.027	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	24 Mar 2016
QD3	SE150233.028	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	24 Mar 2016

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
BH16 0.4-0.5	SE150233.001	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	24 Mar 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016

HOLDING TIME SUMMARY

SE150233 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.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH27 2.3-2.4	SE150233.014	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	30 Mar 2016

Total Recoverable Metals 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
BH16 0.4-0.5	SE150233.001	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097673	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097674	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097674	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097674	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
QD2	SE150233.027	LB097674	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016
QD3	SE150233.028	LB097674	17 Mar 2016	18 Mar 2016	13 Sep 2016	23 Mar 2016	13 Sep 2016	24 Mar 2016

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
BH16 0.4-0.5	SE150233.001	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097548	17 Mar 2016	18 Mar 2016	31 Mar 2016	22 Mar 2016	01 May 2016	29 Mar 2016
QD2	SE150233.027	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD3	SE150233.028	LB097478	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD2	SE150233.027	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD3	SE150233.028	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QTB1	SE150233.029	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE150233 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.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH16 0.4-0.5	SE150233.001	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH17 0.9-1.0	SE150233.002	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH18 0.4-0.5	SE150233.003	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH20 3.3-3.4	SE150233.004	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH21 0.4-0.5	SE150233.005	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH21 1.4-1.5	SE150233.006	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH22 0.4-0.5	SE150233.007	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH22 1.1-1.2	SE150233.008	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH23 0.4-0.5	SE150233.009	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH23 1.4-1.5	SE150233.010	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH24 0.4-0.5	SE150233.011	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH24 2.4-2.5	SE150233.012	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH25 0.3-0.4	SE150233.013	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
BH27 2.3-2.4	SE150233.014	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD2	SE150233.027	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QD3	SE150233.028	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016
QTB1	SE150233.029	LB097469	17 Mar 2016	18 Mar 2016	31 Mar 2016	21 Mar 2016	30 Apr 2016	29 Mar 2016

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]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	95
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	91
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	96
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	96
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	97
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	91
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	101

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	86
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	90
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	92
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	86
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	90
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	78
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	94
d14-p-terphenyl (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	112
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	106
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	116
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	112
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	108
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	94
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	112

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH16 0.4-0.5	SE150233.001	%	70 - 130%	86
	BH17 0.9-1.0	SE150233.002	%	70 - 130%	80
	BH18 0.4-0.5	SE150233.003	%	70 - 130%	90
	BH20 3.3-3.4	SE150233.004	%	70 - 130%	84
	BH21 0.4-0.5	SE150233.005	%	70 - 130%	92
	BH21 1.4-1.5	SE150233.006	%	70 - 130%	86
	BH22 0.4-0.5	SE150233.007	%	70 - 130%	86
	BH22 1.1-1.2	SE150233.008	%	70 - 130%	86
	BH23 0.4-0.5	SE150233.009	%	70 - 130%	90
	BH23 1.4-1.5	SE150233.010	%	70 - 130%	82
	BH24 0.4-0.5	SE150233.011	%	70 - 130%	78
	BH24 2.4-2.5	SE150233.012	%	70 - 130%	82
	BH25 0.3-0.4	SE150233.013	%	70 - 130%	94
	BH27 2.3-2.4	SE150233.014	%	70 - 130%	84
d14-p-terphenyl (Surrogate)	BH16 0.4-0.5	SE150233.001	%	70 - 130%	112
	BH17 0.9-1.0	SE150233.002	%	70 - 130%	110
	BH18 0.4-0.5	SE150233.003	%	70 - 130%	106
	BH20 3.3-3.4	SE150233.004	%	70 - 130%	110
	BH21 0.4-0.5	SE150233.005	%	70 - 130%	116
	BH21 1.4-1.5	SE150233.006	%	70 - 130%	112
	BH22 0.4-0.5	SE150233.007	%	70 - 130%	112
	BH22 1.1-1.2	SE150233.008	%	70 - 130%	118
	BH23 0.4-0.5	SE150233.009	%	70 - 130%	108
	BH23 1.4-1.5	SE150233.010	%	70 - 130%	112
	BH24 0.4-0.5	SE150233.011	%	70 - 130%	94
	BH24 2.4-2.5	SE150233.012	%	70 - 130%	114
	BH25 0.3-0.4	SE150233.013	%	70 - 130%	112
	BH27 2.3-2.4	SE150233.014	%	70 - 130%	114
d5-nitrobenzene (Surrogate)	BH16 0.4-0.5	SE150233.001	%	70 - 130%	88
	BH17 0.9-1.0	SE150233.002	%	70 - 130%	86
	BH18 0.4-0.5	SE150233.003	%	70 - 130%	80
	BH20 3.3-3.4	SE150233.004	%	70 - 130%	76
	BH21 0.4-0.5	SE150233.005	%	70 - 130%	82
	BH21 1.4-1.5	SE150233.006	%	70 - 130%	80
	BH22 0.4-0.5	SE150233.007	%	70 - 130%	80

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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	BH22 1.1-1.2	SE150233.008	%	70 - 130%	78
	BH23 0.4-0.5	SE150233.009	%	70 - 130%	80
	BH23 1.4-1.5	SE150233.010	%	70 - 130%	90
	BH24 0.4-0.5	SE150233.011	%	70 - 130%	82
	BH24 2.4-2.5	SE150233.012	%	70 - 130%	80
	BH25 0.3-0.4	SE150233.013	%	70 - 130%	80
	BH27 2.3-2.4	SE150233.014	%	70 - 130%	78

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	95
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	91
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	96
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	96
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	97
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	91
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	101

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	98
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	93
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	98
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	103
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	83
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	99
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	108
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	98
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	98
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	99
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	110
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	99
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	76
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	96
	QD2	SE150233.027	%	60 - 130%	117
	QD3	SE150233.028	%	60 - 130%	113
	QTB1	SE150233.029	%	60 - 130%	71
d4-1,2-dichloroethane (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	129
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	124
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	114
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	129
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	121
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	120
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	122
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	125
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	123
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	119
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	121
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	101
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	121
	QD2	SE150233.027	%	60 - 130%	127
	QD3	SE150233.028	%	60 - 130%	119
	QTB1	SE150233.029	%	60 - 130%	97
d8-toluene (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	115
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	81
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	121
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	92
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	106
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	93
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	88

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/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH23 0.4-0.5	SE150233.009	%	60 - 130%	112
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	93
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	128
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	90
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	86
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	91
	QD2	SE150233.027	%	60 - 130%	127
	QD3	SE150233.028	%	60 - 130%	128
	QTB1	SE150233.029	%	60 - 130%	82
Dibromofluoromethane (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	106
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	101
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	110
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	107
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	97
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	110
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	108
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	104
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	116
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	119
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	102
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	79
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	111
	QD2	SE150233.027	%	60 - 130%	125
	QD3	SE150233.028	%	60 - 130%	118
	QTB1	SE150233.029	%	60 - 130%	74

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	98
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	93
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	98
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	103
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	83
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	99
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	108
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	98
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	98
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	99
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	110
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	99
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	76
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	96
	QD2	SE150233.027	%	60 - 130%	117
	QD3	SE150233.028	%	60 - 130%	113
d4-1,2-dichloroethane (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	129
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	124
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	114
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	129
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	121
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	120
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	122
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	125
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	123
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	119
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	121
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	101
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	121
	QD2	SE150233.027	%	60 - 130%	127
	QD3	SE150233.028	%	60 - 130%	119

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/AN434/AN410**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	115
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	81
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	121
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	92
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	106
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	93
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	88
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	112
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	93
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	128
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	90
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	86
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	91
	QD2	SE150233.027	%	60 - 130%	127
	QD3	SE150233.028	%	60 - 130%	128
Dibromofluoromethane (Surrogate)	BH16 0.4-0.5	SE150233.001	%	60 - 130%	106
	BH17 0.9-1.0	SE150233.002	%	60 - 130%	101
	BH18 0.4-0.5	SE150233.003	%	60 - 130%	110
	BH20 3.3-3.4	SE150233.004	%	60 - 130%	107
	BH21 0.4-0.5	SE150233.005	%	60 - 130%	97
	BH21 1.4-1.5	SE150233.006	%	60 - 130%	110
	BH22 0.4-0.5	SE150233.007	%	60 - 130%	126
	BH22 1.1-1.2	SE150233.008	%	60 - 130%	108
	BH23 0.4-0.5	SE150233.009	%	60 - 130%	104
	BH23 1.4-1.5	SE150233.010	%	60 - 130%	116
	BH24 0.4-0.5	SE150233.011	%	60 - 130%	119
	BH24 2.4-2.5	SE150233.012	%	60 - 130%	102
	BH25 0.3-0.4	SE150233.013	%	60 - 130%	79
	BH27 2.3-2.4	SE150233.014	%	60 - 130%	111
	QD2	SE150233.027	%	60 - 130%	125
	QD3	SE150233.028	%	60 - 130%	118

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 in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097696.001	Mercury	mg/kg	0.01	<0.01
LB097697.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097548.001		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)	%	-	81

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097548.001		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)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	112

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097548.001	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
	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

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
LB097548.001		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)	%	-	108
		2-fluorobiphenyl (Surrogate)	%	-	96
		d14-p-terphenyl (Surrogate)	%	-	112

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result
LB097548.001		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)	%	-	81

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

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

Sample Number	Parameter	Units	LOR	Result
LB097673.001	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
LB097674.001	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

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR	Result
LB097478.001	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
LB097548.001	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB097469.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Sample Number		Parameter	Units	LOR	Result
LB097469.001	Halogenated Aliphatics	Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	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
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10
		MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	112
		d4-1,2-dichloroethane (Surrogate)	%	-	127

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/AN434

Sample Number		Parameter	Units	LOR	Result
LB097469.001	Surrogates	d8-toluene (Surrogate)	%	-	110
		Bromofluorobenzene (Surrogate)	%	-	116
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB097469.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	112
		d4-1,2-dichloroethane (Surrogate)	%	-	126
		d8-toluene (Surrogate)	%	-	122

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 in Soil

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.002	LB097696.014	Mercury	mg/kg	0.01	0.03	0.09	115	56
SE150233.011	LB097696.024	Mercury	mg/kg	0.01	0.08	0.08	91	7
SE150249.004	LB097697.014	Mercury	mg/kg	0.01	0.22	0.20	54	6
SE150249.013	LB097697.024	Mercury	mg/kg	0.01	0.07	0.06	108	17

Moisture Content

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

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.009	LB097486.011	% Moisture	%w/w	0.5	24	23	34	3
SE150233.029	LB097486.020	% Moisture	%w/w	0.5	<0.5	<0.5	200	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.013	LB097548.029		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	0.058	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	0.098	140	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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.156	30	3
SE150248.002	LB097548.026		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

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.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150248.002	LB097548.026		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
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.141	30	4

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.010	LB097548.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	14
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	2
SE150262.021	LB097548.027		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	0.01	200	0
			Anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Pyrene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.01	200	0
			Chrysene	mg/kg	0.1	<0.1	0	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	0	200	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	0.4	30	2
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.42	30	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.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150262.021	LB097548.027	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.54	30	4

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.013	LB097548.027		Arochlor 1016	mg/kg	0.2	0.7	0.503	63	34
			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	0.503	195	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0.156	30	3
SE150248.002	LB097548.026		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	0.141	30	4

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

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.002	LB097673.014		Arsenic, As	mg/kg	3	<3	<3	79	1
			Cadmium, Cd	mg/kg	0.3	0.3	<0.3	133	7
			Chromium, Cr	mg/kg	0.3	5.1	4.8	40	6
			Copper, Cu	mg/kg	0.5	25	24	32	3
			Lead, Pb	mg/kg	1	21	22	35	5
			Nickel, Ni	mg/kg	0.5	2.6	2.5	50	7
			Zinc, Zn	mg/kg	0.5	12	11	47	1
SE150233.011	LB097673.024		Arsenic, As	mg/kg	3	8	7	43	4
			Cadmium, Cd	mg/kg	0.3	0.6	0.6	83	4
			Chromium, Cr	mg/kg	0.3	15	14	33	8
			Copper, Cu	mg/kg	0.5	27	27	32	0
			Lead, Pb	mg/kg	1	130	120	31	2
			Nickel, Ni	mg/kg	0.5	7.9	6.3	37	22
			Zinc, Zn	mg/kg	0.5	220	270	31	17
SE150249.005	LB097674.014		Arsenic, As	mg/kg	3	<3	3	63	4
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	160	0
			Chromium, Cr	mg/kg	0.3	11	11	34	1
			Copper, Cu	mg/kg	0.5	21	22	32	6
			Lead, Pb	mg/kg	1	69	66	31	5
			Nickel, Ni	mg/kg	0.5	15	18	33	15
			Zinc, Zn	mg/kg	0.5	120	140	32	11
SE150249.014	LB097674.024		Arsenic, As	mg/kg	3	<3	<3	77	1
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.3	7.2	7.3	37	2
			Copper, Cu	mg/kg	0.5	5.4	5.3	39	1
			Lead, Pb	mg/kg	1	9	10	40	4
			Nickel, Ni	mg/kg	0.5	4.8	4.6	41	3
			Zinc, Zn	mg/kg	0.5	17	49	36	99 ②

TRH (Total Recoverable Hydrocarbons) in Soil

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

Original	Duplicate	Parameter	Units	LOR

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.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

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

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.010	LB097548.028		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	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	-1	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
SE150233.028	LB097478.021		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE150262.021	LB097548.026		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	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

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.008	LB097469.014	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	200	0
			Bromomethane	mg/kg	1	<1	<1	200	0
			Chloroethane	mg/kg	1	<1	<1	200	0
			Trichlorofluoromethane	mg/kg	1	<1	<1	200	0
			Iodomethane	mg/kg	5	<5	<5	200	0
			1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	200	0
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	200	0
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	200	0
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1	200	0
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	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.

VOC's in Soil (continued) — **Method: ME-(AU)-[ENV]AN433/AN434**

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.008	LB097469.014	Halogenated	1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
		Aliphatics	cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	200	0
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	200	0
		Halogenated	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
		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
			Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.4	4.7	50	14
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.1	5.8	50	4
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.0	50	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	4.5	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
		Trihalomethan	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
		es	Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0
SE150233.028	LB097469.025	Monocyclic	Benzene	mg/kg	0.1	<0.1	0.01	200	0
		Aromatic	Toluene	mg/kg	0.1	<0.1	0	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	0	200	0
			m/p-xylene	mg/kg	0.2	<0.2	0.01	200	0
			o-xylene	mg/kg	0.1	<0.1	0.01	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	0.01	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.9	6.26	50	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	6.34	50	6
			d8-toluene (Surrogate)	mg/kg	-	6.4	6.11	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.7	5.69	50	0
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	0.02	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.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.028	LB097469.025	Totals	Total BTEX	mg/kg	0.6	<0.6	0.03	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE150233.008	LB097469.014		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	-	5.4	4.7	30	14
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.1	5.8	30	4
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.0	30	10
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	4.5	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
SE150233.028	LB097469.025		TRH C6-C10	mg/kg	25	<25	0.46	200	0
			TRH C6-C9	mg/kg	20	<20	0.57	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.9	6.26	30	6
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	6.34	30	6
			d8-toluene (Surrogate)	mg/kg	-	6.4	6.11	30	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.7	5.69	30	0
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	0.01	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	0.43	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 %
LB097696.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	101
LB097697.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097548.002		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	82
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	90
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	83
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	88
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	84
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	78
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	91

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097548.002		Dichlorvos	mg/kg	0.5	2.1	2	60 - 140	107
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	2	60 - 140	107
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.2	2	60 - 140	111
		Ethion	mg/kg	0.2	2.0	2	60 - 140	99
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	112

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097548.002		Naphthalene	mg/kg	0.1	4.7	4	60 - 140	118
		Acenaphthylene	mg/kg	0.1	4.7	4	60 - 140	118
		Acenaphthene	mg/kg	0.1	4.4	4	60 - 140	111
		Phenanthrene	mg/kg	0.1	4.8	4	60 - 140	119
		Anthracene	mg/kg	0.1	4.6	4	60 - 140	116
		Fluoranthene	mg/kg	0.1	4.8	4	60 - 140	119
		Pyrene	mg/kg	0.1	4.7	4	60 - 140	118
		Benzo(a)pyrene	mg/kg	0.1	5.0	4	60 - 140	125
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	100
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	112

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097548.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	115

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

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

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097673.002	Arsenic, As	mg/kg	3	49	50	80 - 120	97
	Cadmium, Cd	mg/kg	0.3	49	50	80 - 120	97
	Chromium, Cr	mg/kg	0.3	48	50	80 - 120	95
	Copper, Cu	mg/kg	0.5	48	50	80 - 120	96
	Lead, Pb	mg/kg	1	50	50	80 - 120	99
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	99
	Zinc, Zn	mg/kg	0.5	48	50	80 - 120	97
LB097674.002	Arsenic, As	mg/kg	3	48	50	80 - 120	96
	Cadmium, Cd	mg/kg	0.3	48	50	80 - 120	95
	Chromium, Cr	mg/kg	0.3	47	50	80 - 120	94
	Copper, Cu	mg/kg	0.5	47	50	80 - 120	95
	Lead, Pb	mg/kg	1	49	50	80 - 120	98
	Nickel, Ni	mg/kg	0.5	49	50	80 - 120	97
	Zinc, Zn	mg/kg	0.5	48	50	80 - 120	95

TRH (Total Recoverable Hydrocarbons) in Soil

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

Sample Number	Parameter	Units	LOR

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 (continued)

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

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097478.002		TRH C10-C14	mg/kg	20	39	40	60 - 140	98
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	98
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	70
LB097548.002		TRH C10-C14	mg/kg	20	39	40	60 - 140	98
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	39	40	60 - 140	98
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	98
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	70

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097469.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	2.6	2.56	60 - 140	103
	Aliphatics	1,2-dichloroethane	mg/kg	0.1	3.1	2.56	60 - 140	121
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.0	2.56	60 - 140	77
	Halogenated	Chlorobenzene	mg/kg	0.1	3.2	2.56	60 - 140	124
	Monocyclic	Benzene	mg/kg	0.1	3.5	2.9	60 - 140	120
	Aromatic	Toluene	mg/kg	0.1	3.0	2.9	60 - 140	103
		Ethylbenzene	mg/kg	0.1	3.0	2.9	60 - 140	103
		m/p-xylene	mg/kg	0.2	5.8	5.8	60 - 140	99
		o-xylene	mg/kg	0.1	3.0	2.9	60 - 140	105
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.4	5	60 - 140	108
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	5	60 - 140	120
		d8-toluene (Surrogate)	mg/kg	-	5.3	5	60 - 140	106
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.4	5	60 - 140	108
	Trihalomethan	Chloroform	mg/kg	0.1	3.3	2.56	60 - 140	130

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB097469.002		TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	97
		TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	86
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	5	60 - 140	103
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.4	5	60 - 140	128
		d8-toluene (Surrogate)	mg/kg	-	6.4	5	60 - 140	127
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	5	60 - 140	115
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	NVL	NVL	NVL	NVL

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 in Soil

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150225.024	LB097696.004	Mercury	mg/kg	0.01	0.22	0.03	0.2	96
SE150233.012	LB097697.004	Mercury	mg/kg	0.01	0.20	<0.01	0.2	100

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE150233.001	LB097548.026		Dichlorvos	mg/kg	0.5	<0.5	2	85
			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	91
			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	80
			Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE150233.001	LB097548.026		Naphthalene	mg/kg	0.1	<0.1	4	106
			2-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	<0.1	4	103
			Acenaphthene	mg/kg	0.1	<0.1	4	106
			Fluorene	mg/kg	0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	<0.1	4	99
			Anthracene	mg/kg	0.1	<0.1	4	119
			Fluoranthene	mg/kg	0.1	<0.1	4	113
			Pyrene	mg/kg	0.1	<0.1	4	103
			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	116
			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	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	-	0.4	-	88
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	-	96

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

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150225.024	LB097673.004	Arsenic, As	mg/kg	3	50	3	50	93
		Cadmium, Cd	mg/kg	0.3	43	<0.3	50	85
		Chromium, Cr	mg/kg	0.3	56	18	50	75
		Copper, Cu	mg/kg	0.5	440	23	50	826 ⑨
		Lead, Pb	mg/kg	1	95	75	50	40 ⑨
		Nickel, Ni	mg/kg	0.5	50	4.7	50	90
		Zinc, Zn	mg/kg	0.5	140	84	50	114
SE150233.012	LB097674.004	Arsenic, As	mg/kg	3	47	5	50	85
		Cadmium, Cd	mg/kg	0.3	44	0.3	50	87
		Chromium, Cr	mg/kg	0.3	54	13	50	83
		Copper, Cu	mg/kg	0.5	60	18	50	86
		Lead, Pb	mg/kg	1	65	23	50	84

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.

Total Recoverable Metals in Soil/Waste Solids/Materials by ICPOES (continued)

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

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150233.012	LB097674.004	Nickel, Ni	mg/kg	0.5	45	1.3	50	88
		Zinc, Zn	mg/kg	0.5	56	15	50	83

TRH (Total Recoverable Hydrocarbons) in Soil

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

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE150233.001	LB097548.027		TRH C10-C14	mg/kg	20	<20	40	90
			TRH C15-C28	mg/kg	45	<45	40	93
			TRH C29-C36	mg/kg	45	<45	40	80
			TRH C37-C40	mg/kg	100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	-	-
			TRH C10-C40 Total	mg/kg	210	<210	-	-
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	40	93
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	40	93
			TRH >C34-C40 (F4)	mg/kg	120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150194.001	LB097469.004	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	0	-	-
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	-	-
		Aliphatics	Chloromethane	mg/kg	1	<1	<1	-	-
			Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	-	-
			Bromomethane	mg/kg	1	<1	0	-	-
			Chloroethane	mg/kg	1	<1	<1	-	-
			Trichlorofluoromethane	mg/kg	1	<1	<1	-	-
			Iodomethane	mg/kg	5	<5	0	-	-
			1,1-dichloroethene	mg/kg	0.1	2.6	<0.1	2.56	102
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	-	-
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	-
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-	-
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichloroethane	mg/kg	0.1	3.2	<0.1	2.56	123
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	-	-
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	-	-
			Dibromomethane	mg/kg	0.1	<0.1	0	-	-
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	1.9	<0.1	2.56	76
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	-	-
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-	-
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-	-
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	-	-
		Halogenated	Chlorobenzene	mg/kg	0.1	3.1	<0.1	2.56	120
		Aromatics	Bromobenzene	mg/kg	0.1	<0.1	0	-	-
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	-
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-	-
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-

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/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150194.001	LB097469.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.0	<0.1	2.9	103
			Toluene	mg/kg	0.1	3.0	<0.1	2.9	104
			Ethylbenzene	mg/kg	0.1	2.9	<0.1	2.9	99
			m/p-xylene	mg/kg	0.2	5.7	<0.2	5.8	99
			o-xylene	mg/kg	0.1	3.0	<0.1	2.9	103
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	0.0	4.9	-	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	0.0	5.8	-	0
			d8-toluene (Surrogate)	mg/kg	-	0.0	4.4	-	0
			Bromofluorobenzene (Surrogate)	mg/kg	-	0.0	4.7	-	0
		Totals	Total Xylenes*	mg/kg	0.3	8.7	<0.3	-	-
			Total BTEX	mg/kg	0.6	18	<0.6	-	-
		Trihalomethanes	Chloroform	mg/kg	0.1	3.4	<0.1	2.56	132
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	-	-
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	-	-
			Bromoform	mg/kg	0.1	<0.1	0	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE150194.001	LB097469.004		TRH C6-C10	mg/kg	25	<25	<25	24.65	96
			TRH C6-C9	mg/kg	20	<20	<20	23.2	83
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	5.0	-	116
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.5	6.1	-	129
			d8-toluene (Surrogate)	mg/kg	-	5.4	5.5	-	108
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.8	4.6	-	116
		VPH F Bands	Benzene (F0)	mg/kg	0.1	NVL	NVL	NVL	NVL
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	NVL	NVL	NVL	NVL

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 tthe performance of this service.
-	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.

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